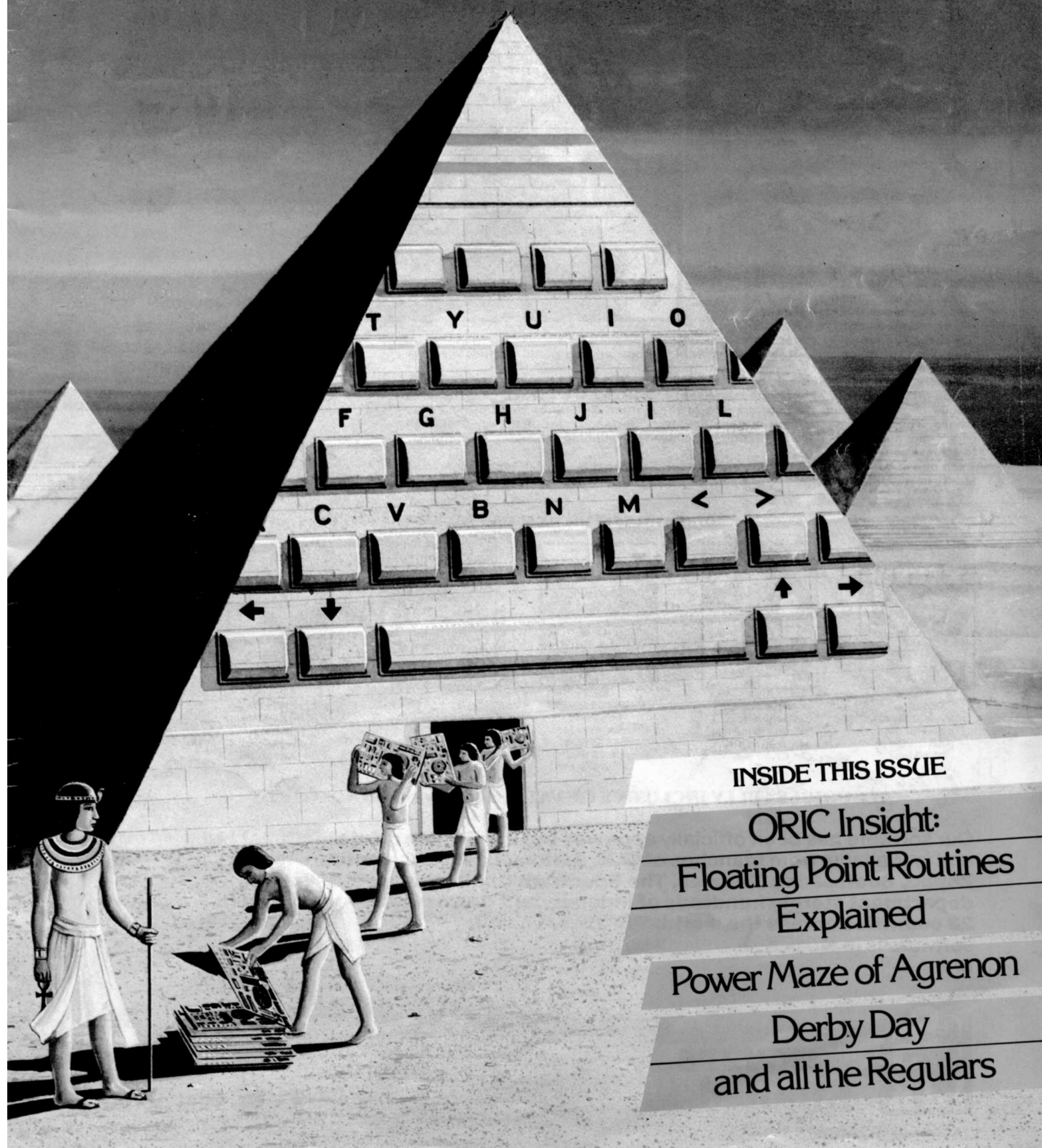


INCORPORATING THE TANSOFT GAZETTE

ORIC OWNER

ISSUE 4

OCT/NOV



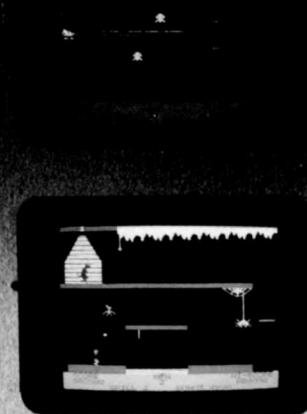
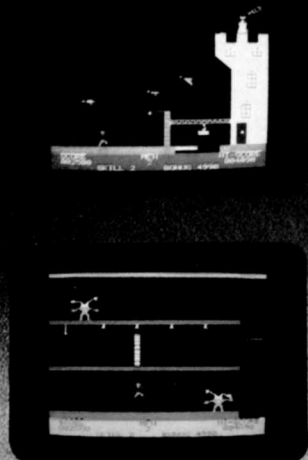
INSIDE THIS ISSUE

ORIC Insight:
Floating Point Routines
Explained

Power Maze of Agrenon

Derby Day
and all the Regulars

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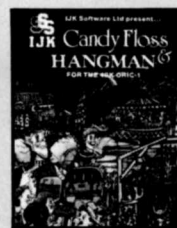
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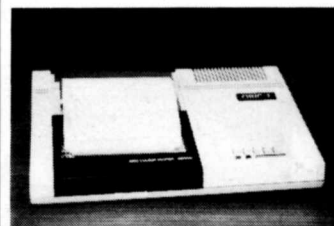
Oric Insight: The Hidden Oric

How to access the floating point maths routines directly in machine-code



Hints and Tips

A new column of recipes for your Oric, to experiment with



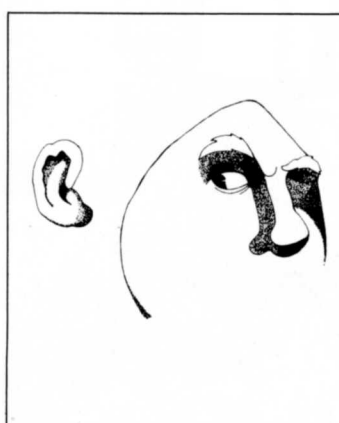
New Products Review

We look at the new Oric 1 MCP-40 colour printer



Captain Tanex

More incredible adventures of our intrepid hero



Phonics

A test for your ears to spot the odd word out



Frog-Run

Can you get the frog to avoid all the traffic hurtling towards it and reach its destination?

Oric Owner Magazine

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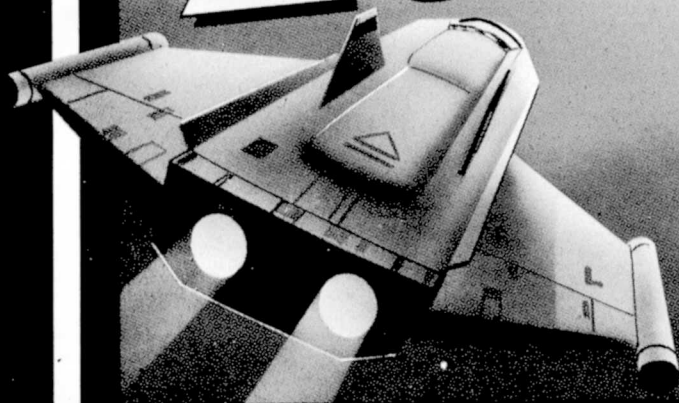
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Editor's Comment

Paul B Kaufman

Summer is the worst time of year for the micro enthusiast. The sun beats down mercilessly on those forced to mow the lawn or lie on deckchairs. There's no welcome snowstorm or flood which means that he has to stay indoors writing obscure machine code packages or solving adventure games in four dimensions. If you go abroad ten to one there's no mains outlet on the beach and someone's forgotten to pack your aerial lead. Yet in hundreds of offices all over the country software houses are planning their latest games or business programs for the coming autumn and winter rush. This has been going on for about the last three years yet things are beginning to change.

Nowadays if you go to a computer exhibition you will find less people actually buying equipment or software and more just trying it out and seeing what's available before going to their local W. H. Smiths or Dixons to buy it. This is in contrast to the exhibitions of a few years ago such as the Breadboard shows where every exhibitor could expect to clear his stand before the end of the show and perhaps even sell the stand as well!



It is obvious then that the whole retail market is maturing and rapidly becoming attuned to the consumer rather than the strict hobbyist. In a way a lot of the early magic is disappearing.

I can remember the excitement when my MK14 kit arrived on the doorstep from Science of Cambridge (Pre-Sinclair!) and after a few hurried hours of soldering, switching it on to find it didn't work. This, in a way, was quite gratifying because if it had worked I would have just sat there and looked at it – there was no software around to do anything with. I remember even being able to get through to Nick Toop or David Johnson-Davies at Science of Cambridge and actually talk to these people who designed the machine. The same

goes for when I upgraded to a Tangerine Microtan, I was always talking to Paul Johnson or Barry Muncaster about some technical point or other.

In a way things had to change. The small numbers of these machines would have kept no-one in business very long. Today when you buy a computer it is almost always certain to run first time (don't all write at once!), software of some sort is always available and although you can't get to talk to the designers, there are usually plenty of publications (such as this) to help with your technical problems.

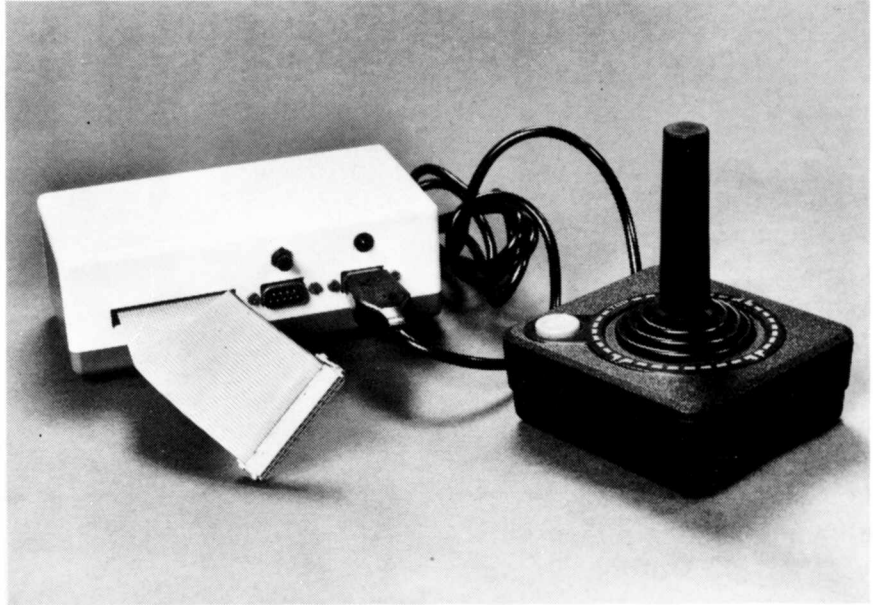
The point of writing this is to show that although there are always complaints and problems, they are usually, in perspective, nowhere as devastating as they could have been a few years ago. So although some of the old magic has gone, today's product is far more complete and reliable than its more temperamental predecessors. Speaking as someone who was there when it started I think I prefer the present solid reliable products (well fairly reliable!) to the old circuit board and bits of wire designers nightmare.

News Brief

Addons from MCP

MCP have released a joystick interface that includes its own speech synthesizer. This is based on a fixed vocabulary chip which gives a limited vocabulary of around 200 words although the sound quality is higher than the phoneme types. The joystick socket is designed for Atari type connections.

MCP are also planning to release in the near future a digitiser (bit pad), an RS232 interface and a multichannel A/D converter.



More information from MCP,
Tel (0792) 844465.

Financial Director for Oric

Allan Castle, F.C.A. has joined Oric Products International, manufacturers of the Oric 1 microcomputer, as their Financial Director. He took up the appointment which carries a seat on the Board on July 1.

Mr. Castle has just spent six years in Hong Kong as Financial Controller of the Ednasa Group



which is involved amongst other things in shipping, oil field services and property in Singapore, Houston and Brisbane. He began his career as a Chartered Accountant with Coopers and Lybrand where he spent seven years before leaving to become Assistant Treasurer of P.&O.

Oric Sales Increase

Sales of Oric's microcomputer are expected to reach 350,000 during the first year, a six hundred percent increase over its initial projection. It exports in

large quantities to France and other European countries and has recently set up joint ventures in Japan and Singapore to cover the Asian and Australasian mar-

ket. The company is also actively seeking a similar joint venture with an American company.

Software Scan

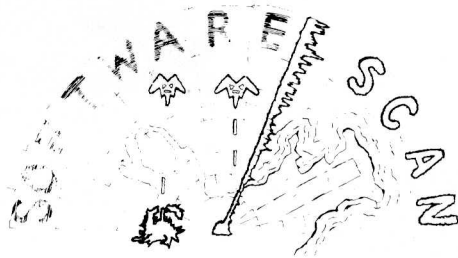
Paul B Kaufman

Not many titles have arrived for review since the last issue so I suppose that everyone is off on their summer hols.

A company who I have not heard of before, Sector 7 Software, have sent me their Games-pack. It contains seven short games – Laser Station, Obstruction, Mazatronic, Demolition, Milliblox, Noughts and Crosses, and Maths-Test. Although written in Basic they are of a good standard with reasonable graphics and sound. Although they probably won't appeal to the arcade addict they are very suitable for the younger Oric user.

P.S.S. have sent me a preview copy of their 'Ultra.' This is a space invaders shoot down type game with a difference. The invaders keep changing shape and moving in various patterns across the screen. The graphics are very good, particularly the star background which seems to move independently of the aliens in front. A very enjoyable game.

House of Death is a follow up adventure game to Zodiac from Tansoft. The adventure takes place in a disused film set which was once used for horror films. As you would imagine there are all sorts of nasties out to get you and plenty of puns and bad jokes which are becoming hallmarks



of Geoff Phillips writing. As with Zodiac you will need several hours to play this adventure through, plus endless patience. Geoff tells me he is working on a proper follow up to Zodiac called – wait for it – Zodiac 2. Apparently this will be written mainly in machine code to speed things up.

I have managed to get hold of a preview copy of Author, the word processing package by John Dawson. It is cassette based and is written entirely in machine code. When you first enter it you are presented with a menu that gives you the various program options. These allow you to create new documents, edit existing ones, save or load to cassette, set up parameters for printers and count the number of words in your text.

Entering text is very simple, you simply type 'W' for write and answer 'Yes' to clear old text out of memory. You then just type in whatever you require.

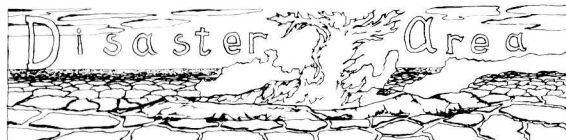
Editing text is also simple. You can move about your text page by using the cursor keys and you have the ability to insert new text, delete unwanted characters, words or paragraphs and search for specific words.

A clever feature is wordwrap. This ensures that a word is never broken in half if it overflows the end of the line. It is always moved down to the next line. There are some more sophisticated features such as auto centring, left and right margin setting and tabs. Author will number pages for you automatically if required and force new pages to be printed when needed. You can also have one paragraph always printed at the top of each form.

Although there isn't room to describe in detail everything that Author can do, in the few hours I have spent using it I was very impressed with its capabilities. It is quite happy to work with most printers including Oric's MCP 40.

Next time I hope to look at Oric Calc and the Hobbit adventure. We are also looking for independent software evaluators to review new Oric software. If you are interested why not drop me a line.

Disaster Area



A number of people have mentioned problems with Oric-Trek in Issue 1. Try adding the line 10 HIMEM #97FF.

In Issue 2 on page twenty we have had a few complaints about the data saving program. Try putting quotes at the beginning and end of each DATA statement.

In Issue 3, the program 'journey of a Space traveller', the introduction was printed at the end of the article instead of the beginning.

Also in Issue 3, the text for the program 'Skiing' should finish after:

1000-1080 Data statements for forming the screen. The rest was a printing error and should be ignored.

Let us know of any disasters you find.

Also available from W. H. Smith



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OBSTRUCTION
— Territory, traps & skill —
Steer your block around the screen restricting the movements of Oric's snake. Set-up the dead-end trap without getting into a jam yourself.

MAZATRONIC
— A 3-Dimensional Maze Exploration —
Oric places you at a random point inside a 3-dimensional maze. Move through the maze and use an aerial plan to deduce where you are. Then work your way to the exit. A fascinating game requiring patience and imagination.

DEMOLITION
— A race against time —
A quality version of this addictive game. Level the cities of an abandoned planet to land and refuel. Comprehensive scoring with bonuses and extra ships for competitive players.

MILLIBLOX
— A Point-Scoring Chase through 7 sectors —
7 sectors to explore as Blue milliblox evades the Red milliblox. You have to score 200 points in each sector before the exit appears to the next, and each sector contains a special power milliblox to turn the tables on the Red milliblox for a short while.

AND FOR YOUNGSTERS
NOUGHTS & CROSSES
— The Traditional Game —
3 skill levels to provide even the youngest gamester with a suitable opponent.

MATHS-TEST
— Combines Maths & Fun —
A game for youngsters to practice their maths. Oric sets questions on 10 skill levels. A correct answer gives you a chance to shoot down invading spaceships. With each correct answer more spaceships appear, and they get faster.

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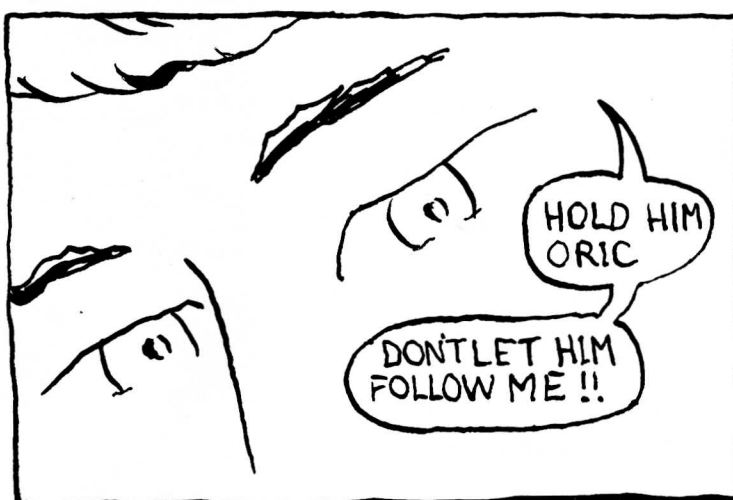
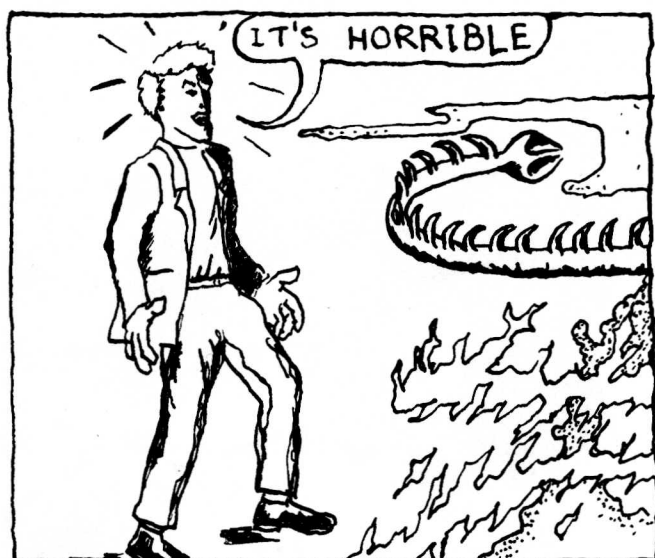
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THE EYE OF TANGER



Oric Insight

The Hidden Oric

Paul B Kaufman

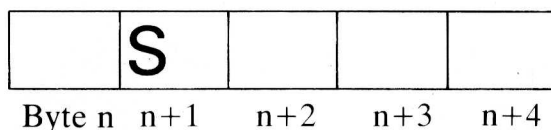
This article is condensed from two articles that appeared in Issues 4 and 5 of the original Tansoft Gazette by Jim Rew and Andy Biggs. It will allow you to access your Orics built-in mathematical routines directly through machine code.

Before you can go leaping about in Orics ROMs you will need to know how BASIC handles floating point numbers. All floating point operations take place either directly in memory or in two special floating point accumulators in zero-page, known as FAC1 and FAC2.

The format of a floating point number held in memory is different from when it is held in the floating point accumulators:



IN MEMORY – Sign Packed 5 Byte Format
Exponent Mantissa – 4 bytes Least significant end



The exponent is in excess 128 (decimal) form, that is:

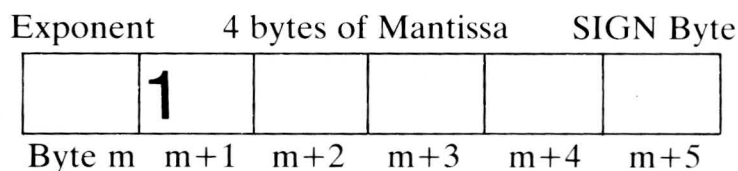
- | | |
|--|----|
| (a) A true exponent of zero is stored as (hex) | 80 |
| (b) A true exponent of one is stored as | 81 |
| (c) A true exponent of minus one is stored as | 7F |

Features

A stored exponent of zero means the number is zero regardless of the value of the mantissa.

The 'binary point' is held to be at the most significant end of the mantissa and the number is 'normalised' such that the most significant bit of the mantissa is a '1'. This being always true this bit is then not explicitly stored, and is instead used to indicate the sign of the mantissa (0=+, 1=-), as indicated by the 'S' above.

IN THE FLOATING ACCUMULATORS – Unpacked 6 Byte Format



The exponent has the same form as above.

The sign is extracted to the SIGN byte (msb 0=+ mantissa)
(msb 1=- mantissa)

The lost 1 is reinstated at the most significant bit of the mantissa. The actual number had the value:

MANTISSA*2 TRUE EXPONENT

In a similar fashion, those ROM routines which store an accumulator value into memory will translate back to the packed format.

Error Handling

There are a number of problems which can cause the ROM routines to abnormally terminate:

- (a) Floating point overflow (any operation)
- (b) Division by zero
- (c) Illegal operations with the transcendental functions
- (e.g. taking the square root of a negative number)

If you hit one of these problems while you are in a ROM routine, you will probably crash.

The ROM routines will, on error, attempt to enter the BASIC error handler, which would normally print a message, reset lots of zero page parameters and restart the interpreter

– fine if you're already in BASIC, but not if you're just using the subroutines. The likely effects are that the error handler will mess up your zero-page usage and either the error print or the restarted interpreter will crash because zero page will not be set up the way the interpreter is expecting! Cheerful isn't it? Since the error call is not vectored you can't catch the problems yourself. So beware!

ROM Routines

Oric's BASIC ROMs contain a number of useful floating point maths routine that can be used from machine code programs. The entry points of some of these routines are listed below, together with enough information for the experimenter to

make use of them. These routines make extensive use of zero-page for their operation, however \$35 to \$80 are available for user storage.

In the list, ACC1 is the primary floating point accumulator used for number crunching and is located in the six bytes \$D0 to \$D5. ACC2 is the secondary floating point accumulator, used for mathematical arguments, and is located in the six bytes \$D8 to \$DD.

MEM is the address of the first byte of a five byte packed floating point number. The address of MEM is determined by the user. On entering these routines the address of MEM is usually held in the A and Y registers.

Features

ORIC INSIGHT

The following example shows how the routines are used:

Example: Divide 154 by 5, store the result at \$1FF0 for future use and print the result.

NOTE SEE ISSUE 5 ORIC OWNER PAGE 78 FOR CORRECTION



Example

```
1F00 A9 00    LDA  #$0
1F02 A0 9A    LDY  #$9A
1F04 20 ED D3 JSR  GIVAYF
1F07 20 DD DE JSR  MOVAF
1F0A A9 00    LDA  #$0
1F0C A0 05    LDY  #$5
1F0E 20 ED D3 JSR  GIVAYF
1F11 20 E3 DD JSR  FDIVT
1F14 A9 1F    LDY  #$1F
1F16 A2 F0    LDX  #$F0
1F18 20 A5 DE JSR  MOVMF
1F1B 20 D1 E0 JSR  FOUT
1F1E EA       NOP
1F1F EA       NOP
1F20 EA       NOP
1F21 A2 01    LDX  #$01
1F23 BD 00 01 LDA  $100,X
1F26 F0 06    BEQ  $1F2E
1F28 9D 10 BE STA  $BE10,X 1
1F2C D0 F5    BNE  $1F23
1F2E 00       BRK
```

BD 00 01

Listing of Entry Points

Name	Address	Function	Description
MOVFM	DE73	Mem→Acc1	Transfer Mem to Acc1. A=MemLO. Y=MemHI.
CONUPK	DD4D	Mem→Acc2	Transfer Mem to Acc2. A=MemLO. Y=MemHI.
MOVMF	DEA5	Acc1→Mem	Transfer Acc1 to Mem X=MemLO. Y=MemHI.
MOVAF	DEDD	Acc1→Acc2	Transfer Acc1 to Acc2.
MOVFA	DECD	Acc2→Acc1	Transfer Acc2 to Acc1.
FDIVT	DDE3	Acc2/Acc1→Acc1	Divide Acc2 by Acc1. Result in Acc1.
FDIV	DDEO	Mem/Acc1→Acc1	Divide Mem by Acc1. A=MemLO. Y=MemHI.
FDIV2	DDDA	Acc2/Mem→Acc1	Divide Acc2 by Mem. A=MemLO. Y=MemHI.
DIV10	DDBF	Acc1/10→Acc1	Divide Acc1 by 10.
SQR	E22A	SQR Acc1→Acc1	Find the square root of Acc1.
POWER	E231	Acc2 ↑ Mem→Acc1	Acc2 raised to Mem. A=MemLO. Y=MemHI.
INT	DFA5	INT Acc1→Acc1	Find the integer of Acc1.
ABS	DF31	ABS Acc1→Acc1	Find the absolute value of Acc1.
FADD	DA97	Mem+Acc1→Acc1	Add Mem to Acc1. A=MemLO. Y=MemHI.
FADDH	DA79	Acc1+0.5→Acc1	Add 0.5 to Acc1.
FSUB	DA80	Mem-Acc1→Acc1	Subtract Acc1 from Mem. A=MemLO. Y=MemHI.
FMULT	DCB7	Mem*Acc1→Acc1	Multiply Mem by Acc1. A=MemLO. Y=MemHI.
MUL10	DDA3	Acc1*10→Acc1	Multiply Acc1 by 10.
SGN	DF12	SGN Acc1→Acc1	Find the sign of Acc1.
LOG	DC79	LOG Acc1→Acc1	Find the log of Acc1.
NEGOP	E26D	-Acc1→Acc1	Negate Acc1.
RND	E34B	RND Acc1→Acc1	Generate random number.
SIN	E38E	SIN Acc1→Acc1	Find the sin of Acc1.
COS	E387	COS Acc1→Acc1	Find the cos of Acc1.
TAN	E3D7	TAN Acc1→Acc1	Find the tan of Acc1.
ATN	E43B	ATN Acc1→Acc1	Find the atn of Acc1.
GIVAYF	D3ED	A, Y→Acc1	Convert integer to F.P. Y=IntLO. A=IntHI.
QUINT1	D871	Acc1→\$D3,\$D4	Convert Acc1 to int. \$D4=IntLO. \$D3+IntHI.
FOUT	EOD1	Acc1→\$100+	Convert Acc1 to string. Acc1 destroyed.

New Products Review

MCP40 Colour Printer/Plotter



This is the first official addon for the Oric-1, a complete printer and pen plotter all in one. Instead of the usual arrangement of heated pins or sparks this printer uses a clever mechanism consisting of four ball-point pens on a rotating cylinder. These pens are black, red, green and blue and so allow colour text or graphics to be printed. Each colour is selected either by pressing one of the buttons at the front of the printer or by entering LPRINT CHR\$(29) on your Oric.

The printer has its own power supply cable and comes with a ribbon lead to connect it to the printer socket on the Oric. Make sure that you plug the lead in correctly otherwise your Oric will just freeze.

Apart from the normal printing of characters there is also the facility to control the size of

characters in 64 steps. This coupled with the facility to print text in four different directions makes for some very interesting patterns and graphic designs.

The printer uses 4 $\frac{1}{4}$ " plain roll paper and is selectable for 40 or 80 characters per line. It is also possible to select by switches whether a CR or CR/LF is printed at the end of each line. You also have a switch to select the katakana (Japanese) character set.

There is a graphics mode in the printer, which allows you to draw diagrams and pictures very easily. There is a command similar to the Orics Hi-Res Pattern command. This allows you to draw dotted lines of 16 different types. The resolution across of 480 by the length of the paper allows the detail of pictures to

equal or surpass the quality of Hi-Res mode.

Plotting is made very easy by a set of commands that give you absolute and relative drawing, resetting the origin and mixing text with graphics. Most impressive is the facility to draw the axes of a graph automatically including the tick marks along the edge.

All in all, then, this printer is very well suited to the Oric and would be ideal for most hobbyists or even some business users. It would be silly to pretend that it could produce letter quality printing and its speed of writing is a little slow (12 characters per second) but I know of no other printers that give these facilities for the price. So for value for money I don't think you could go wrong here.

'2-D Arrays & Totals'

By L. Bancroft

The program presented demonstrates one solution to the problem of the peculiar TAB function found in the ORIC BASIC ROM, especially when producing 2 Dimensional Arrays.

The text discusses some of the problems and solutions encountered whilst developing the program on an ORIC-1.

ORIC PRODUCTS INTERNATIONAL have acknowledged the problem with the TAB function and have stated that this function only appears to work from position 13 on the screen.

These facts will become relevant if a short history of the program is detailed.

The program owes its origins to the N.E.C.'s 30 Hour BASIC Course (actually Assignment 8.1). The program was originally written for use on an Apple 2.

My special interest is writing Business Programs and upon owning my own ORIC-1 I decided to use this program as part of a larger one. Running this program in its original form on the ORIC provided some interesting, albeit incorrect, results. By experimentation, and a 'phone call to ORIC which confirmed that there was a problem with the TAB, a

solution has been found. Also a better understanding of certain functions of the Oric has been gained.

The TAB function will work as a single statement, although for this function the screen is numbered 13 to 51 (from Left to Right) not 0 to 38. Multiple TAB statements e.g. PRINT TAB(X);TAB(Y);TAB(Z).... will not work.

Having found the problem the next step was to find a solution, obviously the next function to try was SPC.

After a few trial statements with SPC it was discovered that some of the problems associated with TAB statements were also present with SPC, plus one or two new ones! These, together with the results of further trials are summarised in TABLE 2.

Having decided that to make the program run correctly and produce a correctly formed table of figures the following functions were deemed necessary: TAB,SPC,LEN,STR\$.

When using STR\$ it has to be remembered that when used with a numeral an additional space is added in front of the number for the + or - character. E.g. Line 160 causes the current value of J to be printed 5 spaces from the last J, not 6.

It will be seen from Table 2 that SPC statements in loops where the FOR/NEXT Value is to be printed do not operate correctly. To overcome this it is necessary to convert the value to a string, i.e. PRINT STR\$(J).

By trial and error the necessary statements were formulated and incorporated into the program with a successful result.

To summarise: The TAB function on the ORIC-1 can only be used as a single statement. The TAB positions on the screen are 13 to 51, and TAB position below 13 will be printed at 13 (e.g. TAB(5) will appear at the extreme Left of the screen exactly as would TAB(13)). Table 1 gives some examples of statements that will work and some that won't.

For multiple printing on one line either SPC alone or following a TAB statement is required. It has to be remembered that when using SPC in loops, where the FOR/NEXT value is required to be printed that this numeral has to be converted to a string. From personal experience I have concluded that the SPC function, within a loop for multiple printing on one line, only operates correctly with strings or with numbers already designated storage labels, e.g. Lines 200, 260.

Features

'2-D Arrays & Totals'

In conclusion the lines that have been altered in the program are listed below together with their function:

150-160 Print the Headings
180-210 Print Day No., Data,
Daily Totals
230-260 Print Product Totals &
Gross Total

Table 1

<i>TAB Functions Correctly</i>	<i>TAB Functions Incorrectly</i>
<pre>10 FOR X = 13 TO 51 20 PRINT TAB(X)X 30 NEXT X ?TAB(X-LEN(T\$))T\$?TAB(X-LEN(STR\$(X)))X ?TAB(X-LEN(T))T</pre>	<pre>Any Multiple TAB Statement. E.g. PRINT TAB(X);TAB(Y); etc. FOR X=13 TO 51 STEP 5 ?TAB(X)X; : NEXT X FOR X = 13 TO 51 STEP 5 ?TAB(X)"A"; : NEXT X</pre>

Table 2

<i>SPC Functions Correctly</i>	<i>SPC Functions Incorrectly</i>
<pre>10 FOR X = 1 TO 5 20 ?SPC(X)X 20 ?SPC(5)X 20 ? SPC(10-LEN(T\$))T\$; 20 ? SPC(10-LEN(STR\$(X)))"A"; 20 ? SPC(10-LEN(STR\$(T)))T; 20 ?SPC(10-LEN(STR\$(X)))STR\$(X); 30 NEXT X</pre>	<pre>10 FOR X = 1 TO 5 20 ?SPC(10-LEN(STR\$(X)))X; 30 NEXT X 10 FOR X = 1 TO 5 20 ? SPC(5)X; 30 NEXT X The above examples will print the first value correctly but subsequent values will be printed at SPC(5+1) i.e. SPC(6)</pre>

(The above examples will function correctly/incorrectly whether in loops or not.)

Features

'2-D Arrays & Totals'

```
0   REM "2-D ARRAYS & TOTALS"
20  DIM N(7,6) : DIM A(6) : DIM B(6)
30  REM ***READ & TOTAL ROUTINE***
40  FOR I = 1 TO 5
50  FOR J = 1 TO 4
60  READ N(I,J)
70  A(J) = A(J) + N(I,J)
80  B(I) = B(I) + N(I,J)
90  NEXT J
100 T = T + B(I)
110 PRINT : NEXT I
120 REM ***PRINT ROUTINE***
130 PRINT TAB(14) "DAY";SPC(8) "PRODUCT"
140 PRINT TAB(14) "----";SPC(8) "-----"
150 PRINT TAB(19) "1";
160 FOR J = 2 TO 4 : PRINT SPC(7-LEN(STR$(J)))STR$(J); : NEXT J :
    PRINT SPC(5) "TOTALS"
170 FOR X = 13 TO 50 : PRINT "-"; : NEXT X
180 FOR I = 1 TO 5 : PRINT TAB(14) I;
190 FOR J = 1 TO 4 : PRINT SPC(6-LEN(STR$(N(I,J))))N(I,J); : NEXT J
200 PRINT SPC(9-LEN(STR$(B(I))))B(I)
210 PRINT : NEXT I
220 FOR X = 13 TO 50 : PRINT "-"; : NEXT X : PRINT
230 PRINT TAB(22-LEN(STR$(A(1))))A(1); : J=2
240 PRINT SPC(6-LEN(STR$(A(J))))A(J); : J=J+1
250 IF J < 5 THEN 240
260 PRINT SPC(9-LEN(STR$(T)))T
270 FOR X = 13 TO 50 : PRINT "-"; : NEXT X : END
280 DATA 500,300,20,25,600,700,40,0,200,550
290 DATA 60,20,250,450,100,5,400,200,100,11
```

Character generator program

By Carsten Skjerk

This character generator program is dumped directly to the printer using LLIST.

The following changes are needed for the character generator to run on the 16K:

Line 10: #97FF should be #17FF

Line 120: #B400 should be #3400

Lines 190, 290, 420: 48123 should be 15335

Line 315: the CSAVE - addresses should be A#3400, E#3B80

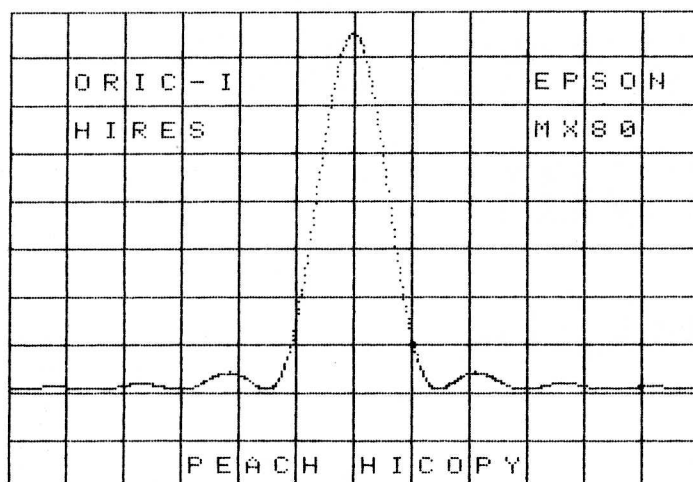
General notes;

Line 50, 395: 6 spaces

```
1 REM` 1983 CARSTEN SKJERK
5 REM ** CHARACTER GENERATOR **
10 INK7:PAPER1:HIMEM#97FF
20 CLS:A$=CHR$(255):TEXT:PRINTCHR$(20);
30 PRINT:PRINTA$A$A$A$A$A$A$
40 FORX=1TO8
50 PRINTA$ "      "A$
60 NEXTX
70 PRINTA$A$A$A$A$A$A$A$
80 PRINT:PRINT"Input the character to be redefined"
90 B$=KEY$:IFB$=""THEN90
91 IFASC(B$)<32ORASC(B$)>128THEN90
100 PRINT"Character set 0 or 1 ? "
110 GETC$:IFC$<"0"ORC$>"1"THEN110
115 C=VAL(C$)
120 A=#B400+VAL(C$)*#400+8*ASC(B$)
130 PRINT:PRINT"Press 's' to set a pixel and 'd' to delete a pixel."
132 PRINT"Press Space Bar to clear character."
135 PRINT"Press 't' to save current character set on tape."
140 PRINT:PRINT"Use the arrow-keys to move the cursor.";
150 PRINT:PRINT"Press [RETURN] to store the character.";
160 FORX=1TO22:PRINTCHR$(11);:NEXT
180 PRINTCHR$(9)CHR$(9)CHR$(9);
190 Z=48123:Q=126
200 FORX=0TO7
210 Y=PEEK(X+A)
220 IFYAND32THENPOKEZ+X,(Q)ELSEPOKEZ+X,32
230 IFYAND16THENPOKEZ+X+1,(Q)ELSEPOKEZ+X+1,32
240 IFYAND8THENPOKEZ+X+2,(Q)ELSEPOKEZ+X+2,32
250 IFYAND4THENPOKEZ+X+3,(Q)ELSEPOKEZ+X+3,32
260 IFYAND2THENPOKEZ+X+4,(Q)ELSEPOKEZ+X+4,32
270 IFYAND1THENPOKEZ+X+5,(Q)ELSEPOKEZ+X+5,32
280 Z=Z+39:NEXT
290 Z=48123
300 GETC$:B=ASC(C$)
310 IFB<80RB>11ANDC$<>"s"ANDC$<>"d"ANDC$<>"t"ANDB<>13ANDC$<>" "THEN300
315 IFC$="t"THENCSAVE"CHARACTERSET",A#B400,E#B80
320 IFB=8ANDP05(0)>3THENZ=Z-1:PRINTC$;
330 IFB=9ANDP05(0)>8THENZ=Z+1:PRINTC$;
340 IFB=10ANDPEEK(616)<10THENZ=Z+40:PRINTC$;
350 IFB=11ANDPEEK(616)>3THENZ=Z-40:PRINTC$;
370 IFC$="s"THENPOKEZ,126
380 IFC$="d"THENPOKEZ,32
390 IFB=13THEN410
395 IFC$=" "THENFORX=2TO9:PLOT2,X," "NEXT
400 GOTO300
410 PRINTCHR$(17);
420 Z=48123
425 IFC=1THENPLOT14,5,9ELSEPLOT14,5,8
426 PLOT15,5,B$
430 FORX=0TO7
440 C=0
450 FORY=0TO5
460 D=PEEK(Z+Y+(40*X))
470 IFD=126THENC=C+2^(5-Y)
480 NEXTY
485 C$=RIGHT$(STR$(C),LEN(STR$(C))-1)
490 POKEA+X,C:PLOT9,X+2," "+C$
500 NEXTX
505 PLOT1,25,"Press [RETURN] to continue."
510 GETA$
520 PRINTCHR$(17)CHR$(20):RUN
```

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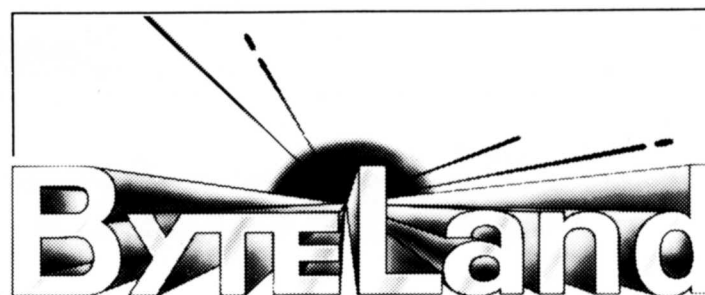
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Hints & Tips

By D. Lam

Program 1 deals with Discounting (i.e. compounding in reverse to find the present value of a given amount of money receivable in the future).



Program No. 1

```

5  REM DISCOUNTING
7  CLS: PRINT
10 INPUT"ENTER
    AMOUNT
    RECEIVABLE IN Y
    NUMBER OF YEARS
    TIME =£";M
15  PRINT
20 INPUT"NUMBER OF
    YEARS"; Y
22  PRINT
25 INPUT"RATE OF
    INTEREST PER
    ANNUM=%";R
30  PRINT
40 PV=M*1/(1+R/100) ↑ Y
50 PRINT"GIVEN
    ";R;"PERCENT OF
    INTEREST PER
    ANNUM, THE
    PRESENT VALUE OF
    £";
55  PRINT M;
    "RECEIVABLE IN
    ";Y;"YEARS TIME IS
    £";INT(PV*100)/100
60  END
    
```

Example:

GIVEN 12 PERCENT OF INTEREST PER ANNUM, THE PRESENT VALUE OF £1250 RECEIVABLE IN 5 YEARS TIME IS £709-28

Program 2 is an effective way to calculate (a) the sales units/value in order to break even, and (b) the sales units/value to achieve the budgeted profit for the year.

Program No. 2

```

5  REM BREAKEVEN
    CALC
10  CLS: PRINT
20  INPUT"SELLING PRICE
    PER UNIT =£";SP
25  PRINT
35  INPUT"VARIABLE
    COST PER UNIT
    =£";VC
40  PRINT
45  INPUT"TOTAL FIXED
    COST PER ANNUM
    =£";FC
50  PRINT
60  INPUT"WHAT IS YOUR
    EXPECTED PROFIT
    FOR THIS YEAR ?
    £";EP
65  PRINT
80  BEU=FC/(SP-VC)
90  EPU=(FC+EP)/(SP-VC)
95  PRINT:PRINT:PRINT
100 PRINT"(1)BREAKEVEN
    POINT =
    ";INT(BEU);"UNITS"
    
```

```

105 PRINT
110 PRINT"BREAKEVEN
    SALES =£";INT (BEU*
    SP)
115 PRINT
120 PRINT"(2) TO
    ACHIEVE THE
    EXPECTED PROFIT,
    YOU MUST BE ABLE
    TO SELL ";
125 PRINT INT(EPU);
    "UNITS"
130 PRINT
135 PRINT"SALES
    REVENUE TO
    GENERATE THE
    EXPECTED PROFIT
    =£";INT(EPU*SP)
140 END
    
```

Example:

SELLING PRICE PER UNIT =£? 5
VARIABLE COST PER UNIT =£? 3
TOTAL FIXED COST PER ANNUM =£? 12000
WHAT IS YOUR EXPECTED PROFIT FOR THIS YEAR ? £? 9500

(1) BREAKEVEN POINT = 6000 UNITS
BREAKEVEN SALES =£30,000

(2) TO ACHIEVE THE EXPECTED PROFIT, YOU MUST BE ABLE TO SELL 10750 UNITS

SALES REVENUE TO GENERATE THE EXPECTED PROFIT =£53,750

Hints & Tips

By D. Lam



1. Type HIRES and draw a few lines all over the screen (and circles, etc if you want). Then type TEXT. Use the CURSOR-DOWN key to get down to the last line on the screen. Then press ESC and finally press the DEL key

2. Locations 520 and 521 return, if PEEKED, different numbers depending on which key is pressed (much better than KEY\$ or GET\$) location 520 holds most of the keyboard whereas 521 changes if the SHIFT or CTRL keys are pressed (the two SHIFT keys return different values).

3. In HIRES, if you have 'FILL'ED parts of the screen

with colours, etc you will have noticed that you cannot draw a line or a CIRCLE over that part. To clear a 'window': set the cursor to the appropriate point and FILL the desired area with a value of 64.

4. I have discovered a way of retrieving NEW'ed programs and am working on a short machine code routine to bring back a BASIC program which has been NEWed (providing no errors have since occurred or no program lines have been entered) I am also working on a routine (in BASIC) which will highlight all REM statements in a program with any desired attribute. More details later.

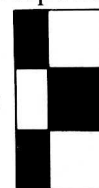
5. CALL 62509 simulates pulling out and pushing the power plug in again. This saves wear on the power socket.

6. The alternate character set graphics are made up as follows:

1	2
4	8
16	32

So, to get a particular shape, add up the corresponding blocks and add 32.

eg. to get:



the code is $(1+8+16)+32=57$

Features

Hints & Tips

By C R Burnham



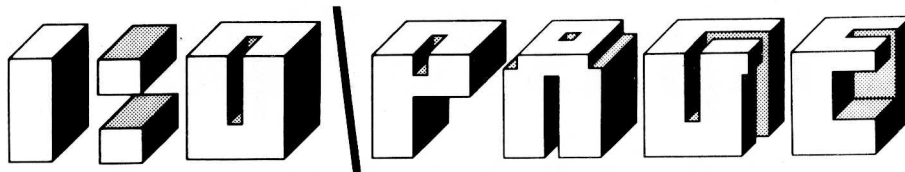
I have discovered that the following addresses perform the specified functions on the ORIC 1 48K Micro. I thought you might like to include them in your magazine for other Users.

Decimal Address	Hex Address	Function
621	#26D	Address of text screen (Default 48000) but can be DOKED with 48280 for example which will stop the top 7 lines from scrolling (ie. $48000 + (7 \times 40) = 48280$)
623	#26F	Text lines per screen Default 27) but can be POKED with 20 to 'reduce' the text screen size.

So to scroll line 13 to 27 but leave lines 1 to 12 constant:

```
10 CLS: FOR A=1 TO 12: PRINT "LINE" A: NEXT A
20 DOKE 621, 48480: REM BASE ADDR + 12 LINES
30 POKE 623,14: REM 14 LINES TO SCROLL
40 FOR A=1 TO 100
50 PRINT "THIS LINE WILL SCROLL"
60 NEXT A
70 DOKE 621,48000: REM RESET BASE ADDR
80 POKE 623,27: REM RESET LINES/SCREEN
```

Regulars



Dear Sir,
re *Forth on the ORIC*

I am very excited about FORTH on the ORIC. It really is an excellent implementation of fig-FORTH.

I also enjoy 'Starting FORTH' by Leo Brodie which is recommended in the introduction to the FORTH Programming Manual.

As is pointed out there, there are differences between poly-FORTH and fig-FORTH. One major difference is in the use of the word CREATE. If you log using it in an attempt to copy

Brodie's examples disaster strikes! It is possible to define a defining word which has the same effect as poly-FORTH CREATE.- : STORE <BUILDS DOES>; eg the phrase—

STORE LIST n_1 , n_2 , n_3 , will create a dictionary entry called LIST followed by the numbers n_1 , n_2 and n_3 .

Subsequent use of the word LIST returns the address of the first value. Thus—LIST @ will put n_1 on the top of the STACK. LIST 2+ @ will return n_2
LIST 4+ @ will return n_3

The various examples on the ORIC FORTH tape which make use of calls to functions in ROM are fascinating. Can we persuade ORIC to publish a list of entry points and parameters? Then we really could demonstrate the combined power of FORTH and ORIC!

Best wishes to ORIC OWNER magazine. I'm looking forward to receiving my next copy.

C. Gavin Fairpo

Dear Sir,
After acquiring my ORIC-1 through some difficulty, I must say it was well worth the wait.

As it is not my first personal micro, I know enough to recognize its excellent properties. Everything is a plus here, including color (via RCB monitor), sound (hooked up to the stereo) and the microsoft basic is certainly up to standard. The super-fast graphics commands are specially useful.

But, everything considered, ORIC-1's full computing potential is not realized without essential peripherals.

Can you please suggest a few economical printers (SEIKO-SHA AP80A?) and disk drives easily available that may be plugged in with little or no need for interfacing?

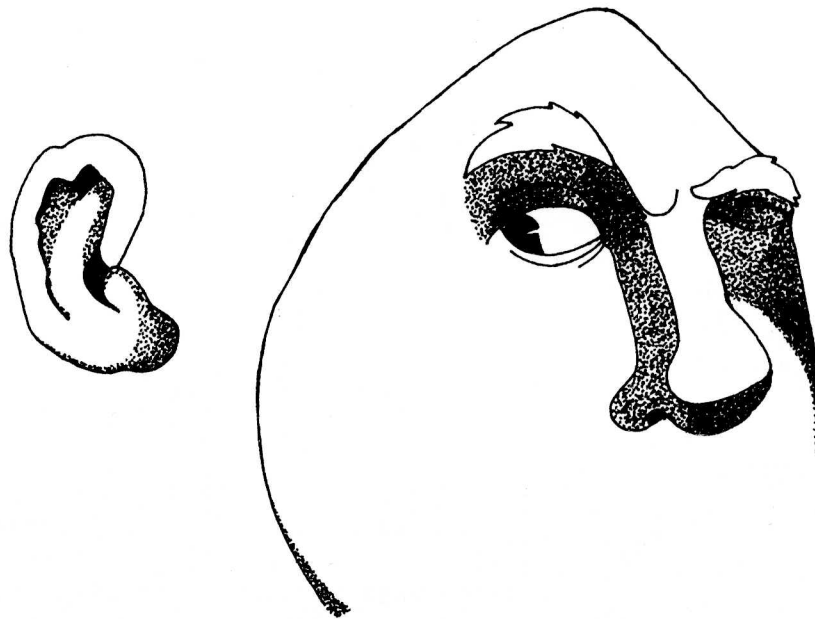
How about a circuit diagram to connect a standard switched joystick to 9 pin D-plug?

Thanks for your attention.

Rodolfo L. Laygo
Manama, Bahrain

Phonics

By S. Lucas



This program was written in conjunction with a teacher of 5–8-year olds. Its aim is to help young children to develop an understanding of the ideas of PHONICS, in a way which is both fun and educational. The program will work in a 48K machine, although I have not tried it in a 16K machine.

The listing contains full instructions in the form of REMarks as to how the program works and how it can be changed to suit the user. I have tried to keep its operation as structured as possible and have included no GOTO statements. The main section of the program occurs between lines 120 and 210, the

following lines all being sub-routines.

In use, the child will be presented with four boxes containing 3 similar words and one “ODD MAN OUT”. An arrow will jump from one word to the next at a rate which is determined by line 1950. This can easily be speeded up if required. The child must then press any key when the arrow points at the odd one out. This was felt to be better than asking children of this age to use the keyboard more fully. They will be given a different response for a right or wrong answer. The computer chooses 10 questions at random from 60 alternatives. After the ten questions are up, the child

will be told their score and asked to enter their name. It should therefore be quite easy to extend the program to keep a ‘HIGH SCORES’ league which could be useful in a class situation. Scores of over 5 out of 10 get a comment ‘good’ whilst over 7 get ‘very good’. They will then be asked if they want to play again.

To alter the questions, all that is necessary is to alter the data from line 330 onwards. Each line of data contains the 4 words followed by the number (out of the 4 alternatives) of the right answer. The boxes will hold words containing up to 5 characters only.

```

1 REM *** PHONICS PROGRAM ***
2 REM *** SUITABLE FOR 5/7 YEAR OLDS ***
3 REM *** WRITTEN BY S. W. LUCAS ***
4 REM *** <C> 1983 ***
5 AAS="Phonics Program"
6 ABS="Written by"
7 ACS="S.W. Lucas 1983"
10 HIRES
12 PAPER7:INK4
16 REM TITLES ON THE HIRES SCREEN
20 CURSET20,20,3
30 FOR A = 1 TO LEN(AAS)
32 CHAR ASC(MIDS(AAS,A,1)),0,1
33 CURMOV10,0,0
35 NEXT A
36 CURSET 20,30,3
38 FOR A = 1 TO LEN(ABS)
39 CHAR ASC(MIDS(ABS,A,1)),0,1
40 CURMOV10,0,0
41 NEXT A
43 CURSET 20,50,3
44 FOR A = 1 TO LEN(ACS)
45 CHAR ASC(MIDS(ACS,A,1)),0,1
46 CURMOV 10,0,0
47 NEXT A
120 DIM AS(60,4),B(60),C(10)
130 GOSUB 270
140 GOSUB1280
150 GOSUB 1710
180 GOSUB1330
190 SC=0
195 IF (BS="N" OR BS="n") THEN END
200 RUN
210 END
220 REM THIS SECTION OF THE PROGRAM
230 REM READS THE DATA INTO THE 2-DIMENSIONAL ARRAY AS(X,Y)
240 REM EACH QUESTION HAS 4 ALTERNATIVES
250 REM FOLLOWED BY THE NUMBER OF THE CORRECT ALTERNATIVE
260 REM THIS ANSWER IS HELD IN THE ARRAY B(X)
270 FOR X = 1 TO 60
280 FOR Y = 1 TO 4
290 READ AS(X,Y)
300 NEXT Y
310 READ B(X)
320 NEXT X
330 DATA cat,sat,bat,let,4
340 DATA eat,meat,rub,seat,3
350 DATA cot,dot,not,set,4
360 DATA hill,bail,call,fall,1
370 DATA miss,put,nut,hut,1
380 DATA hiss,miss,mat,kiss,3
390 DATA can,pan,tin,ran,3
400 DATA ham,put,Sam,Pam,2
410 DATA tap,lap,map,bat,4
420 DATA hid,rid,put,Sid,3
430 DATA had,rid,mad,sad,2
440 DATA rod,rat,cod,pod,2
450 DATA bake,cake,rake,plate,4
460 DATA late,bail,hate,gate,2
470 DATA Jill,Bill,call,pill,3
480 DATA shell,well,pull,bell,3
490 DATA pull,bull,hull,call,4
500 DATA hop,shut,shop,pop,2
510 DATA shed,bed,red,hop,4
520 DATA pop,lip,pip,rip,1
530 DATA dad,bad,hop,lad,3
540 DATA lad,hit,sit,pit,1
550 DATA fan,sun,fun,bun,1
560 DATA lid,hid,bun,kid,3
570 DATA face,pace,plate,race,3
580 DATA meat,heat,seat,sit,4
590 DATA fair,hair,chair,chap,4
600 DATA lid,bin,pin,tin,1
610 DATA cut,fish,put,hut,2
620 DATA take,lake,cake,hunt,4
630 DATA car,far,call,bar,3
640 DATA wake,pin,rake,make,2
650 DATA pan,pen,hen,men,1
660 DATA ant,pant,hen,rant,3
670 DATA mast,last,fish,past,3
680 DATA lock,tank,rock,sock,2
690 DATA lamp,vest,ramp,camp,2
700 DATA vest,rest,pest,lock,4
710 DATA nine,mine,pine,kite,4

```

```

720 DATA pram,ham,land,Sam,3
730 DATA land,sand,hand,lit,4
740 DATA hop,pin,pop,top,2
750 DATA mark,park,lark,land,4
760 DATA pond,jet,pet,met,1
770 DATA ride,side,tide,land,4
780 DATA play,clay,say,pet,4
790 DATA can,pan,plug,ran,3
800 DATA pad,mad,dad,cat,4
810 DATA map,sap,cap,cat,4
820 DATA late,Kate,hate,cat,4
830 DATA Tate,cap,gate,rate,2
840 DATA car,far,bar,bail,4
850 DATA cat,bike,like,mike,1
860 DATA late,plank,ate,plate,2
870 DATA bank,pull,plank,rank,2
880 DATA shade,glade,blade,glad,4
890 DATA chop,cop,cot,shop,3
900 DATA wait,wake,bake,take,1
910 DATA lake,full,make,rake,2
920 DATA shut,run,rut,nut,2
930 RETURN
950 REM THIS SUBROUTINE DRAWS THE 4
960 REM BOXES WHICH HOLD THE CHOICES
965 REM WHICH ARE AVAILABLE
970 HIRES
971 REM NEEDED TO RESET COLOURS
972 PAPER7
973 INK1
974 YY=20
975 FOR Q= 1 TO 4
977 CURSET YY,50,1
980 DRAW 39,0,1
990 DRAW 0,30,1
1000 DRAW -39,0,1
1010 DRAW 0,-30,1
1020 YY=YY+52
1030 NEXT Q
1040 RETURN
1220 REM THE FOLLOWING SECTION OF THE PROGRAM
1230 REM CHOOSES A RANDOM SELECTION OF
1240 REM TEN QUESTIONS OUT OF THE 60 POSSIBLE QUESTIONS
1250 REM THE ARRAY C(X) IS USED TO HOLD THE
1260 REM NUMBER OF THE QUESTIONS TO BE ASKED
1270 REM TO CHOOSE MORE QUESTIONS ALTER THE NEXT LINE
1280 FOR X=1 TO 10
1290 LET C(X)= INT(RND(1)*60)+1
1291 REM THE NEXT LINE ENSURES THAT TWO IDENTICAL QUESTIONS
1292 REM DO NOT COME NEXT TO EACH OTHER
1293 IF C(X)>1 AND (C(X)=C(X-1)) THEN GOTO 1290
1300 NEXT X
1310 RETURN
1330 SC=0
1340 REM THIS SETS SCORE =0
1350 REM THE NEXT SECTION
1355 REM SETS 10 QUESTIONS
1357 REM CHOSEN AT RANDOM
1360 FOR TT = 1 TO 10
1380 REM THIS CLEARS THE SCREEN
1390 HIRES:
1399 REM DRAW THE 4 BOXES AGAIN
1400 GOSUB 970
1410 GOSUB1470
1420 GOSUB1760
1430 GOSUB2140
1440 NEXT TT
1450 GOSUB2400
1460 RETURN
1470 G=B(A)
1480 A=C(TT)
1490 REM A =C(TT) HOLDS THE NUMBER
1500 REM OF THE CURRENT QUESTION
1510 REM G=B(A) HOLDS THE ANSWER
1520 REM TO THE CURRENT QUESTION
1570 REM THE NEXT SECTION PRINTS THE
1580 REM WORDS IN THE BOXES
1582 PP=22:REM SET X POSITION OF CURSOR FOR THE FIRST WORD
1585 FOR P= 1 TO 4:REM COUNTER FOR 4 WORDS
1590 CURSET PP,60,3
1595 NS=AS(A,P)
1600 FOR Z= 1 TO LEN(NS)
1610 CHAR ASC(MIDS(NS,Z,1)),0,1
1620 CURMOV 7,0,0
1630 NEXT Z

```

Software Phonics Listing

Phonics Listing

```

1635 PP=PP+52:REM MOVE CURSOR FOR NEXT WORD
1640 NEXT P
1650 RETURN
1670 REM THIS SUBROUTINE IS TO DEFINE
1680 REM THE CHARACTERS TO BE USED
1690 REM AS A POINTER
1700 REM TO POINT TO THE WORDS
1710 GFS=CHR$(129)
1720 GGS= CHR$(94)
1730 GHS= CHR$(124)
1740 RETURN
1760 D=32
1770 E=100
1780 REM PROCEDURE TO MOVE ARROW ACROSS
1790 REM THE SCREEN . TO POINT AT THE 4 BOXES IN TURN
1800 REM UNTIL ANY KEY IS PRESSED
1820 REPEAT
1830 REM D = X POSITION AND E = Y POSITION
1840 REM OF THE ARROW
1850 PING
1860 REM SOUNDS PING EACH TIME THE ARROW MOVES
1900 CURSET D,E,3
1910 CHAR94,0,1
1920 CURMOV 0,0,3
1930 CHAR124,0,1
1950 WAIT 150
1951 REM TO MAKE THE ARROW PAUSE BEFORE MOVING TO THE NEXT BOX
1960 REM NOW ERASE ARROW
1970 CURSET D,E,3
1980 CHAR 94,0,2
1985 CURMOV0,0,3
1988 CHAR124,0,2
2000 D=D+52
2010 REM MOVE ARROW
2015 REM F= POSITION ARROW STOPS IN
2020 REM IF ARROW GOES OFF SCREEN, RESET IT TO POSITION 1
2040 IF D>198 THEN D=32
2050 REM RESET CHOICE WHEN ARROW GOES OFF SCREEN
2070 SS=KEYS
2075 REM TESTS FOR ANY KEY BEING PRESSED
2080 UNTIL SS<>""
2085 REM SET VALUE OF F
2090 IF D=32 THEN F=4
2095 IF D=84 THEN F=1
2100 IF D=136 THEN F=2
2110 IF D=188 THEN F=3
2120 IF F>4 THEN F=4
2125 IF F <1 THEN F=1
2130 RETURN
2140 HIRE$
2150 PAPER7
2160 INK 4
2180 REM CHECK FOR CORRECT RESPONSE
2190 IF F=B(A) THEN GOSUB2210 ELSE GOSUB2310
2200 RETURN
2209 REM SUBROUTINE FOR WRONG ANSWER
2210 SC=SC+1
2220 REM INCREMENTS THE SCORE
2230 REM NOW PRINT ON THE SCREEN RIGHT
2235 RRS="right"
2236 CURSET 89,75,3
2240 FOR Z= 1 TO LEN(RRS)
2242 CHARASC(MIDS(RRS,Z,1)),0,1
2245 CURMOV8,0,0
2248 NEXT Z
2250 REM NOW GIVE A SOUND FOR RIGHT ANSWER
2252 FOR X=1 TO 150
2255 SOUND1,X,15
2260 NEXT X
2262 FOR X=150 TO 1 STEP -1
2264 SOUND 1,X,15
2265 NEXT X
2267 SOUND 1,0,0
2300 RETURN
2310 WWS="wrong"
2315 REM TO WRITE WRONG ON THE SCREEN
2320 CURSET 89,75,3
2325 FOR Z= 1 TO LEN(WWS)
2330 CHARASC(MIDS(WWS,Z,1)),0,1
2335 CURMOV 8,0,0
2336 NEXT Z
2340 WWS="it was "+AS(A,B(A))
2341 REM TO PRINT THE CORRECT ANSWER
2344 CURSET 50,150,3
2346 FOR Z= 1 TO LEN(WWS)

```

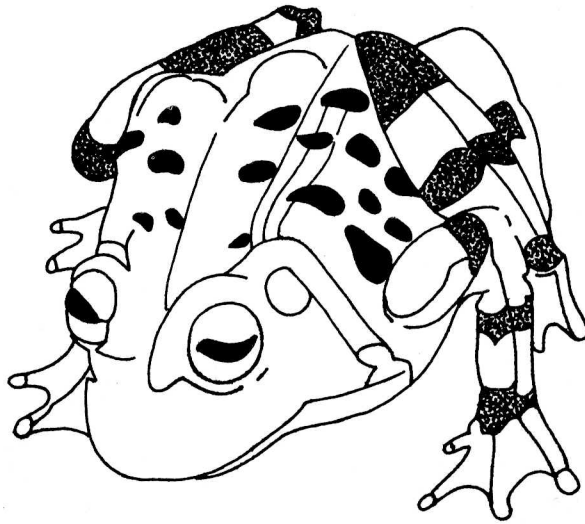
```

2348 CHARASC(MIDS(WWS,Z,1)),0,1
2349 CURMOV 8,0,0
2350 NEXT Z
2353 REM ZAP SOUND FOR WRONG ANSWER
2355 ZAP
2360 WAIT 200
2370 REM PAUSE TO LET CHILD READ WHAT THE ANSWER SHOULD HAVE BEEN
2390 RETURN
2400 TEXT
2410 REM ROUTINE FOR PRINTING RESULTS
2420 LET AS=""
2430 IF SC>5 THEN AS="good"
2440 IF SC>7 THEN AS=" very good"
2450 PAPER 7
2460 INK 0
2470 PRINT:PRINT:PRINT:PRINT" your score was ";SC;" out of 10
"
2480 PRINT:PRINT:PRINT"What is your name ";
2490 INPUT NAS
2500 PRINT:PRINT:PRINTCHR$(129);"Thank you for playing ";CHR$(132);
NAS
2510 PRINT:PRINT:PRINTCHR$(130);"Do you want to play again?"
2520 GETBS
2530 RETURN

```

Frog Run

By M. Caldwell



Frog Run, this program is better known to most as 'FROGGER'. The game fits into all models, the only thing that needs to be changed are the addresses for the user definable graphics. After typing in the program, and before you run it make sure that

- a) THE KEYBOARD CLICK IS ON.
- b) THE CURSOR IS FLASHING.

On running the program you will find a different way of showing a title. The way the title (and the traffic) are done is by using the LEFT\$ and the RIGHT\$ functions (chapter 8 in the ORIC manual).

WHEN desired, press any key and the game begins. The game is in two parts, when the screen

clears you are on level one, this bit is the simple bit (or to some it is). When you reach 500 points the game moves on to level two (or the rush hour). The game is very similar to the original but has a few differences, e.g. it has no lake. It has ten lanes of traffic, but can be improved to twelve by adding this. . .

```
128      PLOT1,15,B$:PLOT1,-13,B$
```

THESE two lines make the game a lot harder on both levels, as they plot a lane of traffic on either side of the snake (or snakes on level two).

THERE is no time limit (yippee I hear you shout) but you only get five lives. My highest score is displayed on the screen but I know that will be beaten by the ED.

Here is what each line (well nearly each line) does.

1-90 Sets variables and GOSUBs all the routines.
120-280 The main loop, which moves, plots the traffic, moves and plots the man, checks to see if anything has been hit.
3000-3020 Defines A\$, B\$, C\$
4000-4030 Lose a life
5000-5060 Sets up the screen
6000-6100 No lives left
7000-7060 The rush hour
8000-8080 User definable graphics
9000-9190 Title and instructions

Variables

sc=SCORE L=LIVES
HS=HIGH SCORE A,B
SCREEN POSITIONS

HAPPY HOPPING

Frog Run Listing

```

1 CLS
2 PRINTCHR$(6)CHR$(17)
4 HS=700
5 GOSUB8000'U.D.G
8 GOSUB9000
10 SC=0
15 L=5
18 PAPER7:INK0
20 GOSUB5000'SCREEN
90 GOSUB3000
95 FORA=2TO26:S=INT(RND(1)*2)+1:PLOT0,A,S:NEXT
96 PLOT0,14,16
100 A=26
110 B=19
112 PLOT9,0,STR$(SC)
120 PLOTB,A," "
125 PLOT1,24,AS:PLOT1,22,BS: PLOT1,12,AS:PLOT1,10,BS
130 X$=KEY$
140 IFX$=""THEN160
160 IFX$=";"THENA=A-1
165 Q=SCRN(B,A)
170 IFX$="."ANDAH26THENA=A+1
175 PLOT1,14,CS
180 IFX$="Z"ANDB11THENB=B-1
190 IFX$="X"ANDB137THENB=B+1
200 PLOT1,20,AS:PLOT1,18,BS: PLOT1,8,AS:PLOT1,6,BS
210 PLOT1,16,AS: PLOT1,4,AS
220 Q=SCRN(B,A)
225 IFQ=61THENSC=SC+100:PING:PLOT9,0,STR$(SC):GOTO100
230 IFQ132THEN4000'LOOSE A LIFE
235 IFSC=500THENGOSUB7000
240 PLOTB,A,"Z$"
250 L$=LEFT$(AS,1):R$=RIGHT$(AS,37)
255 L2$=LEFT$(CS,37):R2$=RIGHT$(CS,1)
260 L1$=LEFT$(BS,37):R1$=RIGHT$(BS,1)
270 AS=R$+L$:BS=R1$+L1$
275 CS=R2$+L2$
280 GOTO120
3000 AS=" 'Z 'Z "
3010 BS="Z& Z& Z& "
3015 CS="/ "
3020 RETURN
4000 EXPLODE:WAIT50
4001 L=L-1:IFL=0THEN6000
4010 PLOT21,0,STR$(L)
4030 GOTO100
5000 CLS
5010 PLOT3,0,"SCORE ":PLOT1,0,1:PLOT15,0,"LIVES 5":PLOT10,0,7:PLOT0,0,20
5020 FORA=0TO37:PLOTA,2,"=":NEXT
5025 PLOT26,0,"HI-SCORE"
5028 PLOT34,0,STR$(HS)

```

```

5030 PLOT0,2,0
5040 PLOT0,14,16
5050 FORA=1TO26:S=INT(RND(1)*5)+1:PLOT0,A,S
5060 RETURN
6000 PLOT22,0,"0":
6010 WAIT300:CLS
6020 PRINT:PRINT:PRINT"HARD LUCK YOU RAN OUT OF LIVES "
6030 PRINT:PRINT"YOU GOT A SCORE OF ";SC" POINTS"
6040 IFSC1HSTHENPRINT:PRINT:PRINT"YOU BEAT THE HIGH SCORE OF ";HS"
POINTS"
6050 IFSC1HSTHENHS=SC
6060 PRINT:PRINT:PRINT"ANOTHER GO Y/N"
6070 GETA$
6080 IFAS="N"THENEND
6090 IFAS="Y"THENGOTO8
6100 GOTO6070
7000 PLOT3,14,"THE RUSH HOUR IS ABOUT TO BEGIN!!"
7010 AS=" 'Z 'Z 'Z 'Z "
7020 CS="/ / / / / / / "
7040 BS=" Z& *Z Z& '( Z& Z& "
7045 SC=SC+50:PLOT9,0,STR$(SC)
7050 WAIT300:PLOT3,14," "
7060 RETURN
8000 FORA=46360TO46423
8010 READD
8020 POKEA,D
8040 NEXT
8045 RETURN
8050 DATA1,3,5,15,7,2,4,8,32,48,40,60,56,16,8,4,63,63,63,63,63,63,2
4,24
8060 DATA48,48,48,63,63,63,6,6
8070 DATA3,3,3,63,63,63,24,24,48,48,48,63,63,63,6,6
8080 DATA0,0,31,31,31,63,1,1,0,0,60,60,60,63,32,32
9000 PAPER0:INK7:CLS
9010 Z$="FROG RUN FROG RUN FROG RUN "
9020 X$=CHR$(96)+" MICHAEL CALDWELL AUGUST 1983 "
9030 REPEAT
9040 PLOT1,2,Z$:PLOT1,26,X$
9050 G$=LEFT$(Z$,37):F$=RIGHT$(Z$,1)
9060 Z$=F$+G$
9070 T$=LEFT$(X$,37):Y$=RIGHT$(X$,1)
9080 X$=Y$+T$
9090 PLOT0,4,"HELP YOUR FROG ACROSS THE VERY BUSY"
9100 PLOT0,6,"ROAD YOU GET 100 POINTS EACH TIME YOU"
9110 PLOT0,8,"DO IT.BUT IT GETS HARDER AS WELL"
9120 PLOT0,12,"USE THE KEYS:"
9130 PLOT0,14,"Z - LEFT X - RIGHT "
9140 PLOT0,16,"; - UP . - DOWN "
9150 PLOT4,22,"PRESS ANY KEY TO START"
9160 PLOT2,22,12
9170 AS=KEY$
9180 UNTILAS13""
9190 RETURN

```


How to get the most out of your Oric-1

Mass Delete Line Facility for Oric BASIC

By G. M. Phillips

Along with RENUMBER, the DELETE function is one of the major omissions in ORIC BASIC. It is often useful to be able to take out chunks of a large program, particularly when starting a new one.



For example, if you want to copy the tape handling subroutine from the ORIC BASE program, you could delete all lines except 20000 onwards.

The following machine-code subroutine gives you this facility, without too much fuss.

The program should be entered as below, and then RUN. (It would be advisable to save the BASIC program as well.)

After a few seconds, save the RAM area #400 to #4FF onto tape – this is the delete program.

Then, whenever you have a program which is to be partially deleted, CLOAD the machine-code program, and type in (as an immediate command):

DOKEO, line-from: DOKE2,
line-no to: CALL#400

Do not worry if the message 'Syntax error' is printed. If the BASIC hangs up check that your BASIC program was typed correctly.

Example:
DOKEO, 200:DOKE2,
1000:CALL#400
would delete lines 200–1000.

Note that the program may work incorrectly if the line numbers supplied do not exist.

For Microtan owners, the routine has been disassembled below, and should need little conversion. (Change LDA #5 to LDA #4 – use TANBUG to run)

Features

```

20 REM RUN ONCE AND SAVE #400-#4FF
30 X=#400
40 READD$: IFD$="Z" THEN 100
50 FOR Z=1 TO LEN(D$)/2: Z1=VAL ("#" + MID$(D$, (Z-1)*2+1, 2)): POKE X, Z1: X=X+1: NEXT Z
60 GOTO 40
100 END
200 DATA A9058545A9018544A001B144F032A002B144C500D007C8B144C501F013A000B1
210 DATA 448550C8B1448545A5508544A900F0D8A5448546A5458547A001B146F002D001
220 DATA 60A002B146C502D007C8B146C503F013A000B1468550C8B1468547A550B546A9
230 DATA 00F0D5A000B1468550C8B1468547A550854638A546E544854AA547E545B54BA0
240 DATA 01B146F042855388B146855238B146E54A91469144C8B146E54B91469144C8B1
250 DATA 469144C8B1469144C8B1469144D0F9983865448544A54569008545A552B546A5
260 DATA 538547A900F0B8A9009144C89144C89144A544186902859C859E85A0A5456900
270 DATA 859D859F85A160, Z

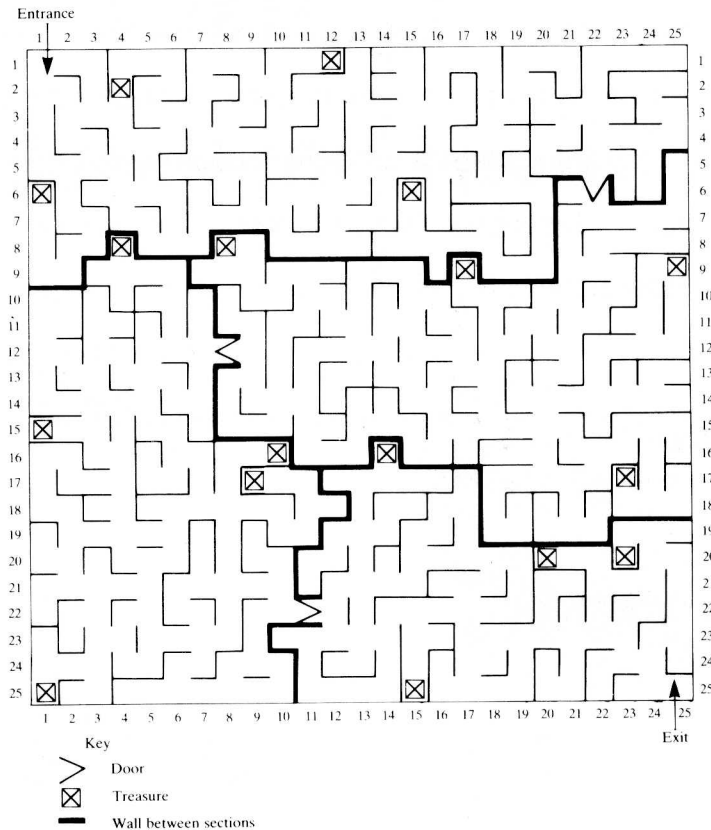
```

4400:	A9 05	LDA	#05	4456:	C8	INY		44A8:	C8	INY	
4402:	B5 45	STA	\$45	4457:	B1 46	LDA	(\$46), Y	44A9:	B1 46	LDA	(\$46), Y
4404:	A9 01	LDA	#01	4459:	B5 47	STA	\$47	44AB:	91 44	STA	(\$44), Y
4406:	B5 44	STA	\$44	445B:	A5 50	LDA	\$50	44AD:	D0 F9	BNE	\$44AB
4408:	A0 01	LDY	#01	445D:	B5 46	STA	\$46	44AF:	98	TYA	
440A:	B1 44	LDA	(\$44), Y	445F:	A9 00	LDA	#00	44B0:	38	SEC	
440C:	F0 32	BEQ	\$4440	4461:	F0 D5	BEQ	\$4438	44B1:	65 44	ADC	\$44
440E:	A0 02	LDY	#02	4463:	A0 00	LDY	#00	44B3:	B5 44	STA	\$44
4410:	B1 44	LDA	(\$44), Y	4465:	B1 46	LDA	(\$46), Y	44B5:	A5 45	LDA	\$45
4412:	C5 00	CMF	\$00	4467:	B5 50	STA	\$50	44B7:	69 00	ADC	#00
4414:	D0 07	BNE	\$441D	4469:	C8	INY		44B9:	B5 45	STA	\$45
4416:	C8	INY		446A:	B1 46	LDA	(\$46), Y	44BB:	A5 52	LDA	\$52
4417:	B1 44	LDA	(\$44), Y	446C:	B5 47	STA	\$47	44BD:	B5 46	STA	\$46
4419:	C5 01	CMF	\$01	446E:	A5 50	LDA	\$50	44BF:	A5 53	LDA	\$53
441B:	F0 13	BEQ	\$4430	4470:	B5 46	STA	\$46	44C1:	B5 47	STA	\$47
441D:	A0 00	LDY	#00	4472:	38	SEC		44C3:	A9 00	LDA	#00
441F:	B1 44	LDA	(\$44), Y	4473:	A5 46	LDA	\$46	44C5:	F0 B8	BEQ	\$447F
4421:	B5 50	STA	\$50	4475:	E5 44	SBC	\$44	44C7:	A9 00	LDA	#00
4423:	C8	INY		4477:	B5 4A	STA	\$4A	44C9:	91 44	STA	(\$44), Y
4424:	B1 44	LDA	(\$44), Y	4479:	A5 47	LDA	\$47	44CB:	C8	INY	
4426:	B5 45	STA	\$45	447B:	E5 45	SBC	\$45	44CC:	91 44	STA	(\$44), Y
4428:	A5 50	LDA	\$50	447D:	B5 4B	STA	\$4B	44CE:	C8	INY	
442A:	B5 44	STA	\$44	447F:	A0 01	LDY	#01	44CF:	91 44	STA	(\$44), Y
442C:	A9 00	LDA	#00	4481:	B1 46	LDA	(\$46), Y	44D1:	A5 44	LDA	\$44
442E:	F0 D8	BEQ	\$440B	4483:	F0 42	BEQ	\$44C7	44D3:	18	CLC	
4430:	A5 44	LDA	\$44	4485:	B5 53	STA	\$53	44D4:	69 02	ADC	#02
4432:	B5 46	STA	\$46	4487:	B8	DEY		44D6:	B5 9C	STA	\$9C
4434:	A5 45	LDA	\$45	4488:	B1 46	LDA	(\$46), Y	44D8:	B5 9E	STA	\$9E
4436:	B5 47	STA	\$47	448A:	B5 52	STA	\$52	44DA:	B5 A0	STA	\$A0
4438:	A0 01	LDY	#01	448C:	38	SEC		44DC:	A5 45	LDA	\$45
443A:	B1 46	LDA	(\$46), Y	448D:	B1 46	LDA	(\$46), Y	44DE:	69 00	ADC	#00
443C:	F0 02	BEQ	\$4440	448F:	E5 4A	SBC	\$4A	44E0:	B5 9D	STA	\$9D
443E:	D0 01	BNE	\$4441	4491:	91 46	STA	(\$46), Y	44E2:	B5 9F	STA	\$9F
4440:	60	RTS		4493:	91 44	STA	(\$44), Y	44E4:	B5 A1	STA	\$A1
4441:	A0 02	LDY	#02	4495:	C8	INY		44E6:	60	RTS	
4443:	B1 46	LDA	(\$46), Y	4496:	B1 46	LDA	(\$46), Y	44E7:	EA	NOP	
4445:	C5 02	CMF	\$02	4498:	E5 4B	SBC	\$4B	44E8:	EA	NOP	
4447:	D0 07	BNE	\$4450	449A:	91 46	STA	(\$46), Y	44E9:	EA	NOP	
4449:	C8	INY		449C:	91 44	STA	(\$44), Y	44EA:	EA	NOP	
444A:	B1 46	LDA	(\$46), Y	449E:	C8	INY		44EB:	EA	NOP	
444C:	C5 03	CMF	\$03	449F:	B1 46	LDA	(\$46), Y	44EC:	EA	NOP	
444E:	F0 13	BEQ	\$4463	44A1:	91 44	STA	(\$44), Y	44ED:	EA	NOP	
4450:	A0 00	LDY	#00	44A3:	C8	INY		44EE:	EA	NOP	
4452:	B1 46	LDA	(\$46), Y	44A4:	B1 46	LDA	(\$46), Y	44EF:	EA	NOP	
4454:	B5 50	STA	\$50	44A6:	91 44	STA	(\$44), Y	44F0:	EA	NOP	

Software

Power Maze of Agrenon

By D. Hunt



The game is played in a 25 by 25 preset maze, the game is in real time and the aim is to kill the 'vicious power matrix', the "GEOMITRIX" and to collect the "Diametric Tapestries" which are spread throughout the maze. The maze is divided into 3 sectors separated by doors, the exit is at location 25, 25.

The "GEOMITRIX" is destroyed by firing 'High power energy zones' at it which are spread throughout the maze. There is also a status check telling you where the "GEOMITRIX" is, how many 'High power energy zones' there are left and how much treasure you have. There are also ratings at the end.

Agrenon Listing

```

5 HIMEM35000
10 CLS
11 INK7:PAPER0
12 TEXT
14 FORN=48036TO48039:POKEN,32:NEXT
15 DEFFNB(N)=INT(RND(1)*N+1)
25 POKE#26A,10
30 DIMA(25,25),B(6,2)
35 GOSUB15000
36 GOSUB29000
38 CLS
39 PRINT
40 PRINTCHR$(4);CHR$(27);"NYOU ARE ENTERING THE POWER MAZE OF":PRIN
T
41 PRINTCHR$(27);"N          AGRENON"
42 PRINTCHR$(4)
43 PRINTCHR$(4)
44 MUSIC1,3,1,0
46 MUSIC2,3,4,0
47 MUSIC3,3,8,0
48 PLAY7,0,7,25000
49 GOSUB1000
50 T=9999:A=1:B=1
60 C=3:PP=3:Q=0
61 PLAY0,0,0,0
62 PING
65 GOSUB3000
70 CLS
75 PRINT CHR$(11);CHR$(11);
80 PRINT " ";CHR$(27);"DIME=";INT(T/100)+1;"TREASURE=";R
85 PRINT " ";CHR$(27);"CWHICH WAY??"
100 AS=KEY$
110 IFAS<>""THENGOTO150
120 T=T-1
130 IFT<0THENT=0:GOTO30000
140 GOTO 75
150 D=ASC(AS)
153 IFA=25ANDB=25THENGOTO31000
155 IFHH=1THENPLAY0,0,0,0:HH=0
160 IFD=11THENGOSUB2000:GOTO75
170 IFD=8THENC=C-1:IFC<1THENC=4
180 IFD=9THENC=C+1:IFC>4THENC=1
181 IFD=70THENGOSUB25000
183 IFD=32THENGOSUB13000
184 GOSUB21000
185 IFA=OANDB=PTHENGOTO23000
186 GOSUB3000
190 GOTO75
1000 FORN=1TO25
1010 FORM=1TO25
1020 READA
1030 A(M,N)=A
1040 NEXT
1050 NEXT
1060 DATA9,5,3,9,5,3,9,5,3,9,5,23,11,13,3,9,5,3,9,5,3,9,5,5,7
1065 DATA8,3,10,30,9,6,8,7,8,2,9,1,2,13,2,10,11,10,8,3,14,10,13,1,7
1070 DATA10,8,4,3,12,1,2,9,6,8,6,10,8,5,0,0,6,8,6,12,1,0,7,12,3
1075 DATA10,12,3,8,1,6,8,4,5,2,9,6,10,9,6,10,13,0,7,9,6,8,5,1,6
1080 DATA12,1,4,2,10,13,4,1,3,12,4,3,8,0,5,0,3,10,11,12,5,0,3,10,11
1085 DATA27,10,13,0,4,3,11,14,10,9,1,0,6,10,27,10,12,4,4,3,13,258,1
4,14,10
1090 DATA10,12,3,12,3,10,8,5,4,2,14,8,5,6,10,14,13,1,3,10,9,4,5,1,6
1095 DATA10,9,6,27,12,4,6,29,3,12,5,4,7,13,4,1,5,2,14,10,10,9,5,4,7
1100 DATA12,6,13,0,5,3,13,5,2,9,1,7,9,5,3,14,27,12,5,6,8,4,3,9,23
1105 DATA9,3,11,14,13,2,11,11,12,6,8,3,10,11,8,3,12,1,7,9,2,9,6,10,
11
1110 DATA10,14,8,7,11,10,10,12,3,9,6,12,2,8,2,12,3,10,9,2,8,6,13,2,
10
1115 DATA8,3,8,3,8,4,0,261,2,10,9,5,0,2,8,5,2,8,6,12,2,9,5,4,6
1120 DATA10,12,2,12,0,3,10,9,2,10,14,9,6,12,2,9,4,2,11,9,6,10,11,9,
7
1125 DATA12,5,0,1,2,12,2,10,12,0,3,14,11,11,12,2,13,2,12,0,5,0,4,4,
7
1130 DATA29,5,2,10,12,3,14,12,5,6,8,7,8,4,3,8,1,4,5,0,3,14,9,1,3
1135 DATA9,3,12,2,11,8,3,9,5,23,12,5,6,27,12,6,14,13,5,2,12,1,6,10,
14
1140 DATA10,12,5,2,12,6,10,10,29,5,3,13,1,4,5,7,11,9,5,4,1,6,27,10,
11
1150 DATA12,3,13,2,13,1,4,0,5,3,8,7,10,9,7,9,2,10,11,11,10,11,12,4,
6

```

```

1155 DATA11,8,5,0,5,2,11,10,11,12,6,9,0,6,9,6,10,12,6,12,4,6,9,1,7
1160 DATA12,2,11,12,1,6,10,10,12,3,9,6,10,11,8,5,4,1,3,29,5,3,30,8,
3
1165 DATA9,4,0,5,2,9,4,0,5,2,14,9,0,4,6,13,1,6,10,9,7,8,5,2,10
1170 DATA14,9,2,9,2,12,3,10,9,4,261,2,10,9,1,5,0,5,6,10,11,10,9,6,1
0
1175 DATA11,14,8,2,8,5,0,6,10,13,1,4,0,2,8,7,10,9,1,4,0,4,2,9,2
1180 DATA8,5,2,12,6,9,6,9,4,3,10,13,6,10,10,11,8,6,10,11,10,9,4,2,1
4
1185 DATA30,13,6,13,5,4,5,4,5,6,12,5,5,6,30,12,4,5,6,12,6,14,13,4,7
1210 FORN=1TO15
1220 A=FNB(25):B=FNB(25)
1230 IFA(A,B)AND32THENGOTO1220
1240 A(A,B)=A(A,B)OR32
1245 C=FNB(25):D=FNB(25)
1247 IFA(C,D)AND64THENGOTO1245
1248 A(C,D)=A(C,D)OR64
1250 NEXT
1280 O=FNB(25):P=FNB(25)
1290 A(O,P)=A(O,P)OR128
1300 RETURN
2000 IFA(A,B)AND2^(C-1)THENGOTO2100
2020 IFC=1THENB=B-1
2030 IFC=2THENA=A+1
2040 IFC=3THENB=B+1
2050 IFC=4THENA=A-1
2055 IF(A(A,B)AND512)=0THENA(A,B)=A(A,B)OR512:UU=UU+1
2060 GOSUB3000
2070 RETURN
2100 BS="YOU CAN'T GO IN THIS DIRECTION"
2105 CURSET27,80,3
2110 FORN=1TO30
2120 IFMID$(BS,N,1)=" "THENCURMOV4,0,3ELSECURMOV6,0,3
2130 CHARASC(MID$(BS,N,1)),0,1
2140 NEXT
2150 RETURN
3000 E=A:F=B:BB=1
3005 HIRES:POKE#26A,10
3007 PATTERN255
3010 GOSUB4000
3020 GOSUB5000
3030 GOSUB3500
3035 GOSUB3600
3040 GOSUB4000
3050 GOSUB6000
3060 GOSUB3500
3065 GOSUB3600
3070 GOSUB4000
3080 GOSUB7000
3090 GOSUB3500
3100 GOSUB3600
3110 GOSUB4000
3120 GOSUB8000
3130 GOSUB3500
3140 GOSUB3600
3150 GOSUB4000
3160 GOSUB9000
3170 GOSUB3500
3180 GOSUB3600
3190 GOSUB4000
3200 GOSUB10000
3210 GOSUB3500
3220 GOSUB3600
3230 GOSUB4000
3240 GOSUB12000
3250 RETURN
3500 IFC=1THENF=F-1
3510 IFC=2THENE=E+1
3520 IFC=3THENF=F+1
3530 IFC=4THENE=E-1
3535 BB=BB+1
3540 RETURN
3600 IFFF<>0THENPOP:RETURN
4000 NW=A(E,F)AND1
4010 EW=A(E,F)AND2
4020 SW=A(E,F)AND4
4030 WW=A(E,F)AND8
4032 IFA(E,F)AND64THENGOSUB17000:HH=1
4035 TR=A(E,F)AND16

```

Agrenon Listing

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4037 IFTR<>0THENGOSUB4500
4038 IF(A(E,F)AND256)ANDBB>1THENGOSUB19000
4039 IFE=OANDF=PANDBB>1ANDPP>0 ANDRR=0THENGOSUB16000:HH=1
4040 FF=NW:RW=EW:BW=SW:LW=WW
4050 IFC=1THENRETURN
4060 FORN=1TOC-1
4070 G=FF:FF=RW:RW=BW:BW=LW:LW=G
4080 NEXT
4090 RETURN
4500 CURSET99,88,1
4510 DRAW40,0,1
4520 DRAW0,22,1
4530 DRAW-40,0,1
4540 DRAW0,-22,1
4550 DRAW40,22,1
4560 CURSET139,88,1
4570 DRAW-40,22,1
4573 RETURN
5000 IFTR=0THENGOTO5009
5002 R=R+FN B(50)+50
5006 A(E,F)=A(E,F)-16
5007 PLAY1,0,0,0:FORN=1TO 6:FORM=6TO0STEP-1
5008 MUSIC1,M,N,10:NEXT:NEXT:PLAY0,0,0,0
5009 IFFF=0THENGOTO5020
5010 CURSET30,25,3:DRAW179,0,1:DRAW0,148,1:DRAW-179,0,1:DRAW0,-148,
1
5020 PW=A(E,F)AND 32
5030 IFPW<>0THENGOTO14000
5060 IFLW=0THENGOTO5100
5070 CURSET0,0,3
5080 DRAW30,25,1:DRAW0,148,1:DRAW-30,25,1
5090 GOTO5140
5100 CURSET0,25,3
5110 DRAW30,0,1
5120 DRAW0,148,1
5130 DRAW-30,0,1
5140 IFRW=0THENGOTO5200
5150 CURSET239,0,3
5160 DRAW-30,25,1
5170 DRAW0,148,1
5180 DRAW30,25,1
5190 RETURN
5200 CURSET239,25,3
5210 DRAW-30,0,1
5220 DRAW0,148,1
5230 DRAW30,0,1
5240 RETURN
6000 IFFF=0THENGOTO6060
6010 CURSET54,45,3:DRAW130,0,1:DRAW0,108,1:DRAW-130,0,1:DRAW0,-108,
1
6060 IFLW=0THENGOTO6100
6070 CURSET30,25,3
6080 DRAW24,20,1:DRAW0,108,1:DRAW-24,20,1
6090 GOTO6140
6100 CURSET30,45,3
6110 DRAW24,0,1
6120 DRAW0,108,1
6130 DRAW-24,0,1
6140 IFRW=0THENGOTO6200
6150 CURSET208,25,3
6160 DRAW-24,20,1
6170 DRAW0,108,1
6180 DRAW24,20,1
6190 RETURN
6200 CURSET208,45,3
6210 DRAW-24,0,1
6220 DRAW0,108,1
6230 DRAW24,0,1
6240 RETURN
7000 IFFF=0THENGOTO7060
7010 CURSET77,64,3:DRAW84,0,1:DRAW0,70,1:DRAW-84,0,1:DRAW0,-70,1
7060 IFLW=0THENGOTO7100
7070 CURSET54,45,3
7080 DRAW23,19,1:DRAW0,70,1:DRAW-23,19,1
7090 GOTO7140
7100 CURSET54,64,3
7110 DRAW23,0,1
7120 DRAW0,70,1
7130 DRAW-23,0,1

```

```

7140 IFPW=0THENGOTO7200
7150 CURSET184,45,3
7160 DRAW-23,19,1
7170 DRAW0,70,1
7180 DRAW23,19,1
7190 RETURN
7200 CURSET184,64,3
7210 DRAW-23,0,1
7220 DRAW0,70,1
7230 DRAW23,0,1
7240 RETURN
8000 IFFF=0THENGOTO8060
8010 CURSET94,78,3:DRAW50,0,1:DRAW 0,42,1:DRAW-50,0,1:DRAW0,-42,1
8060 IFLW=0THENGOTO8100
8070 CURSET77,64,3
8080 DRAW17,14,1:DRAW0,42,1:DRAW-17,14,1
8090 GOTO8140
8100 CURSET77,78,3
8110 DRAW17,0,1
8120 DRAW0,42,1
8130 DRAW-17,0,1
8140 IFRW=0THENGOTO8200
8150 CURSET161,64,3
8160 DRAW-17,14,1
8170 DRAW0,42,1
8180 DRAW17,14,1
8190 RETURN
8200 CURSET161,78,3
8210 DRAW-17,0,1
8220 DRAW0,42,1
8230 DRAW17,0,1
8240 RETURN
9000 IFFF=0THENGOTO9060
9010 CURSET107,89,3:DRAW24,0,1:DRAW 0,20,1:DRAW-24,0,1:DRAW0,-20,1
9060 IFLW=0THENGOTO9100
9070 CURSET94,78,3
9080 DRAW13,11,1:DRAW0,20,1:DRAW-13,11,1
9090 GOTO9140
9100 CURSET94,89,3
9110 DRAW13,0,1
9120 DRAW0,20,1
9130 DRAW-13,0,1
9140 IFRW=0THENGOTO9200
9150 CURSET144,78,3
9160 DRAW-13,11,1
9170 DRAW0,20,1
9180 DRAW13,11,1
9190 RETURN
9200 CURSET144,89,3
9210 DRAW-13,0,1
9220 DRAW0,20,1
9230 DRAW13,0,1
9240 RETURN
10000 IFFF=0THENGOTO10020
10010 CURSET114,95,3:DRAW10,0,1:DRAW 0,8,1:DRAW-10,0,1:DRAW0,-8,1
10020 IFLW=0THENGOTO10100
10070 CURSET107,89,3
10080 DRAW7,6,1:DRAW0,8,1:DRAW-7,6,1
10090 GOTO10140
10100 CURSET107,95,3
10110 DRAW7,0,1
10120 DRAW0,8,1
10130 DRAW-7,0,1
10140 IFRW=0THENGOTO10200
10150 CURSET131,89,3
10160 DRAW-7,6,1
10170 DRAW0,8,1
10180 DRAW7,6,1
10190 RETURN
10200 CURSET131,95,3
10210 DRAW-7,0,1
10220 DRAW0,8,1
10230 DRAW7,0,1
10240 RETURN
12000 PATTERN255
12005 FORN=114TO124
12010 CURSETN,95,1
12020 DRAW0,8,1
12030 NEXT

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Agrenon Listing

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12040 RETURN
13000 TEXT
13001 SOUND 1,FN B(500),0
13002 SOUND 2,FN B(500),0
13003 SOUND 3,FN B(500),0
13004 PLAY 7,0,4,1000
13005 CLS
13006 POKE #26A,10
13010 PRINT
13020 PRINTCHR$(27);CHR$(4);"J YOU HAVE _";R;"OF TREASURE"
13030 PRINT
13040 PRINT CHR$(27);"J YOUR POSITION IS ";A;B
13050 PRINT
13052 IF C=1 THEN B$="NORTH"
13054 IF C=2 THEN B$="EAST"
13056 IF C=3 THEN B$="SOUTH"
13058 IF C=4 THEN B$="WEST"
13060 PRINT CHR$(27);"J YOU ARE FACING ";B$
13070 PRINT
13080 PRINT
13090 PRINT
13095 IF PP=0 THEN GOTO 13107
13100 PRINT CHR$(27);"J THE GEOMOTRIX IS AT ";0;P
13105 GOTO 13111
13107 PRINT CHR$(27);"J THE GEOMITRIX IS DEAD"
13111 PRINT:IF Q=1 THEN B$="" ELSE B$="S"
13112 PRINT CHR$(27);"J YOU HAVE ";Q;" HIGH POWER ENERGY"
13114 PRINT
13116 PRINT CHR$(27);"J ZONE";B$;" LEFT"
13117 PRINT
13118 PRINT
13119 PRINT:PRINT CHR$(27);"J PRESS SPACE BAR TO CONTINUE":PRINT:PR
INTCHR$(4)
13120 PRINT " ";CHR$(27);"E TIME IS RUNNING OUT FAST!!"
13125 PRINT CHR$(4);
13130 FOR N=1 TO 13:PRINTCHR$(11);:NEXT
13132 B$=""
13135 REPEAT
13150 PRINT CHR$(11);
13170 PRINT CHR$(27);"J TIME=";INT(T/100)+1
13180 T=T-10
13185 IF T<0 THEN PRINT CHR$(4):GOTO 30000
13190 UNTIL KEYS<>""
13195 PRINT CHR$(4)
13205 PLAY 0,0,0,0
13206 HIRIS
13210 RETURN
13297 TEXT
14000 FOR N=1 TO 199 STEP 10
14010 CURSET 0,N,3
14020 DRAW 120,100-N,1
14030 CURSET 239,N,3
14040 DRAW -120,100-N,1
14045 SOUND 1,N,0
14047 PLAY 1,0,3,500
14050 NEXT
14060 FOR N=10 TO 99 STEP 10
14065 SOUND 1,N*2,0
14067 PLAY 1,0,3,500
14070 CURSET 120,100,3
14080 CIRCLE N,1
14090 NEXT
14100 CLS
14110 PRINT
14120 PRINT CHR$(27);CHR$(4);"N          !!!SPATIAL ANOMALY!!!"
14121 FOR N=1 TO 100
14122 CURSET FN B(230),FN B(190),3
14123 CHAR 35,0,1
14125 SOUND 1,N,0
14127 SOUND 2,150-N,0
14130 SOUND 3,50,0
14131 PLAY 7,0,3,500
14132 NEXT
14133 PLAY 0,0,0,0
14134 EXPLODE:IF QQ=1 THEN GOTO 29125
14135 A(A,B)=A(A,B)-32
14136 PRINT CHR$(4);
14137 A=FN B(25):B=FN B(25)
14138 IF A(A,B) AND 32 THEN GOTO 14137

```

```

14139 A(A,B)=A(A,B) OR 32
14140 A=FN B(25)
14150 B=FN B(25)
14155 IF A(A,B) AND 16 THEN GOTO 14140
14157 IF A=25 AND B=25 THEN GOTO 14140
14160 C=FN B(4)
14165 T=T+FN B(1000)-500
14170 POP:GOSUB 3000:RETURN
15000 PRINT
15001 INK 3
15002 POKE #26A,10
15005 PRINT CHR$(4);
15010 PRINT CHR$(27);"D";CHR$(27);"J          POWER MAZE OF AGRENON"
15015 PRINT CHR$(4)
15020 PRINT
15030 PRINT CHR$(96);" LUPTON/HUNT 1983"
15035 PRINT
15040 PRINT"In your search for rare earth elements";
15050 PRINT"you have landed on the planet Agrenon.";
15060 PRINT
15070 PRINT"where you have discovered the"
15080 PRINT"remains of an ancient pan dimensional"
15090 PRINT"power civilisation"
15095 PRINT
15100 PRINT"In searching one of the settlements"
15110 PRINT"you have fallen through a power matrix";
15130 PRINT"into the power maze of Agrenon"
15140 PRINT:PRINT"This was a maze built by the ancient"
15145 PRINT"race filled with diametric tapestries"
15150 PRINT"and used to test their own kind"
15160 PRINT
15170 PRINT:PRINT:PRINT:PRINT
15180 PRINT CHR$(27);"L PRESS ANY KEY TO CONTINUE"
15190 B$=KEY$:IF B$="" THEN GOTO 15190
15195 B$=""
15200 CLS
15203 INK 6
15205 PRINT CHR$(4);
15210 PRINT
15220 PRINT CHR$(27);"B";CHR$(27);"J          POWER MAZE OF AGRENON"
15225 PRINT:PRINT
15227 PRINT CHR$(4);
15230 PRINT"Within the maze there is a vicious"
15240 PRINT"spatial vortex of great intelligence"
15245 PRINT"known as the";
15250 PRINT CHR$(27);"D";CHR$(27);"LGEOMITRIX";CHR$(27);"G";CHR$(27)
);"H";
15251 PRINTCHR$(27);"F";
15252 PRINT"who when you"
15254 PRINT"are caught will distort your spatial"
15257 PRINT"sector and you will be quickly"
15260 PRINT"over come by the deadly spores of the"
15280 PRINT"planet"
15290 PRINT
15295 PRINT"There are spatial anomilies within the";
15300 PRINT"maze which when entered will displace"
15305 PRINT"you to a new spatial sector"
15310 PRINT
15311 PRINT"There are high power energy zones"
15313 PRINT"throughout the power maze.These can"
15315 PRINT"be used to destroy the GEOMITRIX"
15317 PRINT
15320 PRINT"The only exit is at the far end of"
15330 PRINT"the maze. This is reached through 3"
15340 PRINT"doors"
15350 PRINT
15360 PRINT CHR$(27);"L PRESS ANY KEY TO CONTINUE"
15370 B$=KEY$:IF B$="" THEN GOTO 15370
15380 CLS
15385 INK 5
15390 B$=""
15400 PRINT
15405 PRINTCHR$(4);
15410 PRINT CHR$(27);"F";CHR$(27);"J          CONTROL FUNCTIONS"
15420 PRINT:PRINT
15425 PRINT CHR$(4);
15430 PRINT"F:-Fires high power energy zone which"
15440 PRINT"are directed by the cursor keys"
15445 PRINT

```

ORIC – Tabbing

Screen	1										2										3										
Column No	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	etc . . . up to 40
'Col' No	1 2 3 4 5 6 7 8 9 0										1 2 3 4 5 6 7 8 9 0										1 2 3 4 5 6 7 8 9 0										etc . . . up to 38
	1 2 3 . 4 5										2 8 . 3 6										4 4 6 . 2 7										
	6 . 3 3										2 1 7 . 6 0										4 2 5 3 . 2 0										
	ITEM 'A'										ITEM 'B'										ITEM 'C' etc . . .										

```

05  REM                                     *****
10  REM                                     ROUTINE FOR TABBING – IT ALSO ALIGNS
20  REM                                     AMOUNTS EITHER SIDE DECIMAL POINT
30  REM                                     *****
40  INPUT A, B, C                           :REM FOR TESTING PURPOSES – ENTER VALUES.
50  PRINT
100 COL = 5                                :REM COLUMN NO OF UNIT DIGIT OF FIRST ITEM
                                           IGNORING TWO BLANK COLS ON LEFT OF
                                           SCREEN
110 ITEM = A
120 GOSUB 500
200 COL = 15                               :REM COLUMN NO OF UNIT DIGIT OF SECOND ITEM
210 ITEM = B
220 GOSUB 500
300 COL = 25                               :REM COLUMN NO OF UNIT DIGIT OF THIRD ITEM
310 ITEM = C
320 GOSUB 500
330 PRINT                                  :REM SPACE-UP AFTER LAST ITEM REQUIRED ON
                                           THE LINE.
340 GOTO 40 (or ?)                         :REM CONTINUE YOUR PROGRAMME.
500 COL = COL + 2                          :REM ADD TWO COLUMN NO TO ALLOW FOR FIRST
                                           2 MARGIN COLS.
510 PRINT                                  SPC(COL-POS(X)-(LEN(STR$(INT(ITEM))))-1)); ITEM;
520 RETURN

```

Features

[Left-justified] Alternative A.

	1										2										3																			
	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6				
2 blank columns on left edge of screen	ONE BILL										TWO CHRIS										THREE HARRY										FOUR TOM etc									
05	REM *****																																							
10	REM SUGGESTED ROUTINE FOR TABBING																																							
20	REM LEFT-JUSTIFIED ITEMS																																							
30	REM *****																																							
40	DATA 0, 10, 18, 26										:REM TAB COLUMN NUMBERS																													
50	FOR I = 1 TO 4																																							
60	READ C(I)										:REM READ-IN TAB COL NUMBERS																													
70	C(I) = C(I) + 12																																							
80	NEXT I																																							
90	PRINT																																							
100	FOR I = 1 to 4																																							
110	PRINT TAB(C(I));										:REM TAB TO APPROPRIATE COLUMN																													
120	PRINT CHR\$(#11);										:REM BACK-SPACE CURSOR ONE LINE																													
130	INPUT X\$										:REM ENTER AN ITEM																													
140	NEXT I																																							
150	GOTO 90																																							
Note: BECAUSE THE ABOVE "TESTING" PROG USES INPUT X\$ A QUESTION-MARK? WILL "PRINT" IN FRONT OF THE ITEM TYPED IN																																								

[Left-justified] Alternative B.

THIS IS A STRAIGHT "IN-LINE" VERSION OF THE PROG ON PAGE 2. (ALTERNATIVE A)

```

10 CL$
20 PRINT: PRINT
30 PRINT TAB(12);
40 INPUT X$           :REM FIRST ITEM
50
60 PRINT TAB(22);
70 PRINT CHR$(#11);
80 INPUT X$           :REM SECOND ITEM
90
100 PRINT TAB(30);
110 PRINT CHR$(#11);
120 INPUT X$           :REM THIRD ITEM
130
140 PRINT TAB(38);
150 PRINT CHR$(#11);
160 INPUT X$           :REM FOURTH ITEM
170
180 GOTO 30

```

Features

ORIC – Tabbing

[Left-justified] Alternative “C”

This is similar to the “DECIMAL POINT ALIGNMENT” Routine, but without taking into account the length of the field to be printed. It takes the difference between the position you wish to TAB to, and the present position of the CURSOR, and then SPC (spaces) that number of spaces. It will work for string variables, such as A\$ too.

```
40 INPUT A, B, C
50 PRINT
100 COL = 0
110 ITEM = A
120 GOSUB 500
200 COL = 15
210 ITEM = B
220 GOSUB 500
300 COL = 28
310 ITEM = C
320 GOSUB 500
330 PRINT
340 GOTO 40
```

(or GOTO wherever you want to Continue)

```
500 COL = COL + 2
510 PRINT
520 RETURN
```

SPC(COL – POS(X)); ITEM;

Agrenon Listing

```
15450 PRINT"LEET:-Turns left within the spatial"
15460 PRINT"sector"
15470 PRINT"RIGHT:-Turns right within the spatial"
15480 PRINT"sector"
15490 PRINT
15500 PRINT"UP:-moves forward"
15510 PRINT
15520 PRINT"SPACE BAR:-Displays vital information"
15530 PRINT"During this period time decreases at"
15540 PRINT"at a greater rate"
15550 PRINT
15560 PRINT"The power maze is displayed in three"
15570 PRINT"dimensions"
15580 PRINT:PRINT:PRINT:PRINT:PRINT
15720 PRINT CHR$(27):"L PRESS ANY KEY TO CONTINUE"
15730 BS=KEY$:IF BS="" THEN GOTO 15730
15740 CLS
15750 INK7
15760 BS="" RETURN
16000 GOSUB16700:ON B1GOTO16100,16200,16300,16400,16500,16600
16100 IF A=0 AND B=P THEN POP:GOTO 23000
16110 RETURN
16120 CURSET 144,120,3
16130 DRAW -67,14,1
16140 CURSET 77,64,3
16150 DRAW 67,14,1
16160 CURSET 161,64,3
16170 DRAW -67,14,1
16180 CURSET 120,127,3
16190 DRAW 0,-56,1
16195 RETURN
16200 CURSET 54,153,3
16210 DRAW 154,20,1
16220 CURSET 184,153,3
16230 DRAW -154,20,1
16240 CURSET 30,25,3
16250 DRAW 154,20,1
16260 CURSET 206,25,3
16270 DRAW -154,20,1
16280 CURSET 120,163,3
16290 DRAW 0,-126,1
16295 RETURN
16300 CURSET 77,134,3
16310 DRAW 107,19,1
16320 CURSET 161,134,3
16330 DRAW -107,19,1
16340 CURSET 54,45,3
16350 DRAW 107,19,1
16360 CURSET 184,45,3
16370 DRAW -107,19,1
16380 CURSET 120,144,3
16390 DRAW 0,-89,1
16395 RETURN
16400 CURSET 94,120,3
16410 DRAW 67,14,1
16420 CURSET 144,120,3
16430 DRAW -67,14,1
16440 CURSET 77,64,3
16450 DRAW 67,14,1
16460 CURSET 161,64,3
16470 DRAW -67,14,1
16480 CURSET 120,126,3
16490 DRAW 0,-53,1
16495 RETURN
16500 CURSET 107,109,3
16510 DRAW 37,11,1
16520 CURSET 131,109,3
16530 DRAW -37,11,1
16540 CURSET 94,78,3
16550 DRAW 37,11,1
16560 CURSET 144,78,3
16570 DRAW -37,11,1
16580 CURSET 120,115,3
16590 DRAW 0,-31,1
16595 RETURN
16600 CURSET 114,103,3
16610 DRAW 17,6,1
16620 CURSET 124,103,3
16630 DRAW -17,6,1
```

Agrenon Listing

```

16640 CURSET 107,89,3
16650 DRAW 17,6,1
16660 CURSET 131,89,3
16670 DRAW -17,6,1
16680 CURSET 119,104,3
16690 DRAW 0,-11,1
16695 RETURN
16700 MUSIC 1,0,1,0
16710 MUSIC 2,0,4,0
16720 MUSIC 3,1,6,0
16730 PLAY 7,0,4,200
16735 HH=1
16740 RETURN
17000 IF RR=1 THEN RETURN
17005 SOUND 1,449,0
17010 SOUND 2,470,0
17020 SOUND 3,464,0
17030 PLAY 7,0,4,1000
17032 OO=1
17035 IF BB=1 THEN Q=Q+1:A(E,F)=A(E,F)-64:GOSUB 17700
17040 ON BB GOTO 17100,17200,17300,17400,17500,17600,17690
17100 FOR N=183 TO 193
17110 PATTERN 170
17120 CURSET 80-(N-183),N,3
17130 DRAW 80+2*(N-183),0,00
17140 NEXT
17150 PATTERN 255
17160 RETURN
17200 FOR N=160 TO 166
17210 PATTERN 170
17220 CURSET 85-(N-160),N,3
17230 DRAW 70+2*(N-160),0,00
17240 NEXT
17250 PATTERN 255
17260 RETURN
17300 FOR N=140 TO 144
17310 PATTERN 170
17320 CURSET 90-(N-140),N,3
17330 DRAW 60+2*(N-140),0,00
17340 NEXT
17350 PATTERN 255
17360 RETURN
17400 FOR N=126 TO 128
17410 PATTERN 170
17420 CURSET 100-(N-126),N,3
17430 DRAW 40+2*(N-126),0,00
17440 NEXT
17450 PATTERN 255
17460 RETURN
17500 FOR N=114 TO 116
17510 PATTERN 170
17520 CURSET 110-(N-114),N,3
17530 DRAW 20+2*(N-114),0,00
17540 NEXT
17550 PATTERN 255
17560 RETURN
17600 FOR N=106 TO 107
17610 PATTERN 170
17620 CURSET 115-(N-106),N,3
17630 DRAW 10+2*(N-106),0,00
17640 NEXT
17650 PATTERN 255
17660 RETURN
17690 RETURN
17700 FOR N=550 TO 449 STEP-1
17705 PLAY 7,0,0,0
17710 SOUND 1,N,10
17720 SOUND 2,N+15,10
17730 SOUND 3,N+21,10
17740 NEXT
17750 RETURN
19000 IF RR=1 THEN RETURN
19005 GOSUB 20000:ON BB-1 GOTO 19100,19200,19300,19400,19500,19600
19100 CURSET 120,25,3
19110 DRAW 0,148,1
19120 CURSET 30,100,3
19125 DRAW 178,0,1
19130 PATTERN 85
19140 RETURN

```

```

19200 CURSET 120,45,3
19210 DRAW 0,108,1
19220 CURSET 54,100,3
19230 DRAW 130,0,1
19240 PATTERN 85
19250 RETURN
19300 CURSET 120,64,3
19310 DRAW 0,70,1
19320 CURSET 77,100,3
19330 DRAW 84,0,1
19340 PATTERN 85
19350 RETURN
19400 CURSET 120,78,3
19410 DRAW 0,42,1
19420 CURSET 94,100,3
19430 DRAW 50,0,1
19440 PATTERN 85
19450 RETURN
19500 CURSET 120,89,3
19510 DRAW 0,20,1
19520 CURSET 107,100,3
19530 DRAW 24,0,1
19540 PATTERN 85
19550 RETURN
19600 CURSET 120,95,3
19610 DRAW 0,8,1
19620 CURSET 95,100,3
19630 DRAW 10,0,1
19640 PATTERN 85
19650 RETURN
20000 SOUND 1,550,0
20010 SOUND 2,1000,0
20030 PLAY 3,0,4,1000
20035 HH=1
20040 RETURN
21000 IF PP=0 THEN RETURN
21001 CC=SGN(A-O):DD=SGN(B-P)
21002 IF (A(O,P)AND 128)<>0 THEN A(O,P)=A(O,P)-128
21005 EE=EE+1:IF EE>5 THEN EE=0:GOSUB 22000
21010 IF CC=1 AND (A(O,P)AND 2)=0 THEN O=O+1
21020 IF DD=1 AND (A(O,P)AND 4)=0 THEN P=P+1
21030 IF CC=-1 AND (A(O,P)AND 8)=0 THEN O=O-1
21040 IF DD=-1 AND (A(O,P)AND 1)=0 THEN P=P-1
21050 A(O,P)=A(O,P) OR 128
21060 RETURN
22000 GG=GG+1:IF GG>2 THEN P=P+DD:O=O+CC:POP:GG=0:RETURN
22001 IF (A(O,P)AND 1)=0 THEN GOTO 22010
22002 IF (A(O,P)AND 8)=0 THEN GOTO 22060
22004 IF (A(O,P)AND 4)=0 THEN GOTO 22040
22006 IF (A(O,P)AND 2)=0 THEN GOTO 22020
22010 IF (A(O,P)AND 1)=0 THEN P=P-1:GOTO 22010
22015 POP:RETURN
22020 IF (A(O,P)AND 2)=0 THEN O=O+1:GOTO 22020
22030 POP:RETURN
22040 IF (A(O,P)AND 4)=0 THEN P=P+1:GOTO 22040
22050 POP:RETURN
22060 IF (A(O,P)AND 8)=0 THEN O=O-1:GOTO 22060
22070 POP:RETURN
23000 PATTERN 170
23005 INK 1:PAPER 7
23010 FOR N=1 TO 25
23030 CURSET FN B(200)+20, FN B(159)+20,3
23035 FOR M=1 TO 10
23040 CIRCLE M,1
23050 SOUND 1,N,0
23060 SOUND 2,N+10,0
23070 SOUND 3,N+20,0
23080 PLAY 7,0,3,10
23090 NEXT
23100 NEXT
23110 EXPLODE
23120 WAIT 100
23130 SOUND 1,1000,0
23140 PLAY 1,7,4,400
23150 WAIT 700
23155 PLAY 7,0,0,0
23160 FOR N=1100 TO 4100 STEP 15
23170 SOUND 1,N,15
23180 NEXT

```



```

23185 IF QQ=1 THEN RETURN
23190 BS="YOU HAVE BEEN OVERCOME BY THE SPORES"
24000 GOTO 31200
24005 CLS
24007 GOTO 31200
25000 IF Q=0 THEN RETURN
25005 FOR N=6 TO 1 STEP -1:ZAP:WAIT N:NEXT
25010 SHOOT
25015 CLS
25020 JJ=A:KK=B:LL=C:MM=0:NN=1:Q=Q-1
25022 BB=0:E=JJ:F=KK:C=LL:RR=1
25025 GOSUB 25910
25027 E=JJ:F=KK
25030 AS=KEYS
25040 IF AS<>" " THEN GOTO 25100
25041 HH=1
25042 PLAY 7,0,0,0
25043 SS=15-(SQR((ABS(A-JJ))^2+(ABS(B-KK)^2)).423)
25044 SOUND 1,449,SS
25046 SOUND 2,464,SS
25048 SOUND 3,475,SS
25050 T=T-1:IF T<0 THEN POP:GOTO 130
25060 PRINT CHR$(11);CHR$(11);
25070 PRINT " ";CHR$(27);"DIME=";INT(T/100)+1;"TREASURE=";R
25075 PRINT " ";CHR$(27);"ADIRECT THE HIGH POWER ENERGY ZONE"
25080 GOTO 25030
25100 D=ASC(AS)
25110 IF D=11 THEN CLS:GOSUB 25200
25115 IF D=8 THEN CLS:GOSUB 26000
25130 IF D=9 THEN CLS:GOSUB 27000
25135 IF D=32 THEN D=0:RR=0:RETURN
25140 GOTO 25030
25200 FOR N=1 TO BB
25210 IF JJ=B(N,1)ANDKK=B(N,2)THENNO=0:GOSUB17000+(N+1)*100
25212 NEXT
25215 E=JJ:F=KK
25220 GOSUB 4000
25230 IF LL=1 AND NW<>0 THEN EXPLODE:POP:RR=0:RETURN
25240 IF LL=2 AND EW<>0 THEN EXPLODE:POP:RR=0:RETURN
25250 IF LL=3 AND SW<>0 THEN EXPLODE:POP:RR=0:RETURN
25260 IF LL=4 AND WW<>0 THEN EXPLODE:POP:RR=0:RETURN
25270 IF LL=1 THEN KK=KK-1
25280 IF LL=2 THEN JJ=JJ+1
25290 IF LL=3 THEN KK=KK+1
25300 IF LL=4 THEN JJ=JJ-1
25310 IF JJ=0 AND KK=P THEN GOSUB28000
25320 FOR N=1 TO BB
25330 IF B(N,1)=JJ AND B(N,2)=KK THEN OO=1:GOSUB 17000+((N+1)*100)
25340 NEXT
25350 RETURN
25900 GOSUB 3600
25910 GOSUB 3500:GOSUB 4000:B(BB,1)=E:B(BB,2)=F
25920 GOTO 25900
26000 LL=LL-1:IF LL<1 THEN LL=4
26010 NN=0
26020 RETURN
27000 LL=LL+1:IF LL>4 THEN LL=1
27010 NN=0
27020 RETURN
28000 PRINT CHR$(7);:FOR O=0 TO 4
28005 FOR N=6 TO 0 STEP -1
28010 FOR M=1 TO 12
28020 MUSIC 1,N,M,15
28030 NEXT
28040 NEXT
28050 NEXT
28070 FOR N=1 TO 2700 STEP 10
28080 SOUND 1,N,15
28090 NEXT
28095 WAIT 100
28100 PLAY 0,0,0,0
28110 EXPLODE
28115 IF QQ=1 THEN RETURN
28120 R=R+FNB B(50)+950
28123 A(O,P)=A(O,P)-128
28125 POP:POP
28128 PP=PP-1:IF PP>0 THEN O=FNB(15):P=FNB(15)
28129 RR=0
28130 RETURN

```

```

29000 CLS
29005 POKE $26A,10
29010 PRINT
29012 PRINT CHR$(27);CHR$(4);"J";CHR$(27);"C";SPC(7);"POWER MAZE OF
    AGRENON"
29014 PRINT CHR$(4)
29016 PRINT
29020 PRINT"Do you want a short demonstration of"
29030 PRINT"the power mazes features?"
29040 PRINT
29050 PRINT CHR$(27);"LTYPE 'YES' OR 'NO'";:INPUT BS
29060 IF LEFT$(BS,1)<>"Y" THEN RETURN
29065 QQ=1
29070 CLS
29080 HIRES
29090 PRINT"A spatial anomaly is like this"
29100 PRINT"It will move you to a new spatial"
29105 PRINT"sector";
29110 WAIT 100
29120 GOTO 14000
29125 WAIT 500
29130 HIRES
29140 CLS
29145 PRINT CHR$(4)
29150 PRINT"A high power energy zone looks like"
29160 PRINT"this. These are used to kill the"
29165 PRINT"GEOMITRIX";
29170 BB=2:GOSUB17000
29180 WAIT 600
29185 HIRES
29190 CLS
29250 PRINT"The GEOMITRIX looks like this"
29260 BB=2:GOSUB 16000
29270 WAIT 800
29280 PLAY 0,0,0,0
29290 CLS
29300 HIRES
29430 PRINT"A door connecting sections looks like"
29440 PRINT"this"
29450 LW=1:GOSUB 5000
29460 LW=0:GOSUB 6000
29470 BB=3:GOSUB 19000
29480 LW=1:RW=1:GOSUB 7000
29490 GOSUB 8000
29500 LW=0:RW=1:FF=1:GOSUB 9000
29510 WAIT 800
29515 PLAY 0,0,0,0
29520 HIRES:PATTERN 255:CLS
29530 PRINT"You can see up to 6 levels"
29540 PRINT"anything beyond this will be as above"
29550 LW=0:RW=0:FF=0:GOSUB 5000
29560 LW=1:RW=1:GOSUB 6000
29570 LW=0:GOSUB 7000
29580 RW=0:LW=0:GOSUB 8000
29590 LW=1:RW=1:GOSUB 9000
29600 RW=0:GOSUB 10000
29610 GOSUB 12000
29620 WAIT 700
29630 CLS
29640 GOSUB 16300:GOSUB 16700
29650 PRINT"This is what the GEOMITRIX looks like"
29660 PRINT"in the maze"
29670 QQ=0
29680 WAIT 800
29685 PLAY 0,0,0,0
29690 TEXT
29700 PRINT
29710 PRINT CHR$(4);
29720 PRINT CHR$(27);"C";CHR$(27);"J      POWER MAZE OF AGRENON"
29730 PRINT:PRINT
29740 PRINTCHR$(4);
29750 PRINT"Do you want to see the intructions"
29760 PRINT"again";:INPUT BS
29780 IF LEFT$(BS,1)="Y" THEN POP:CLS:GOTO 35
29785 CLS
29790 RETURN
30000 HIRES
30003 FOR N=500 TO 800
30005 PLAY 7,0,0,0

```

Agrenon Listing

Software

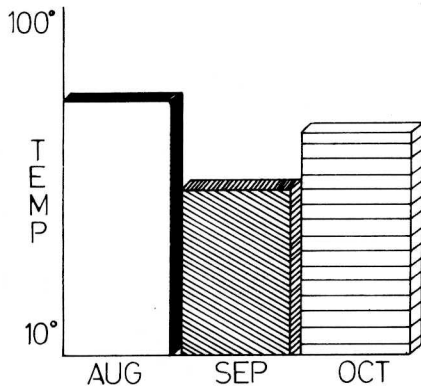
```

T":PRINT"STANDARD"
31410 IF VV>3999 AND VV<5000 THEN PRINT"AGRENON SPATIAL ENGINEER ST
ANDARD"
31420 IF VV>4999 AND VV<6000 THEN PRINT"AGRENON POWER BATTLE MASTER
STANDARD"
31430 IF VV>5999 THEN PRINT"BATTLE LORD OF AGRENON STANDARD"
31440 WAIT 500
31450 PRINT
31460 IF Q=1 THEN BS=" " ELSE BS="S"
31470 PRINT"YOU HAD ";Q;"HIGH POWER ENERGY ZONE";RS;CHRS(13)
31475 PRINT"LEFT
31480 PRINT"YOU COLLECTED _";R;"WORTH OF TREASURE"
31490 IF PP=1 THEN BS="LIFE" ELSE BS="LIVES"
31495 IF PP=0 THEN PRINT"THE GEOMITRIX IS DEAD":GOTO 31510
31500 PRINT"THE GEOMITRIX HAD ";PP;" ";BS;" LEFT"
31510 PRINT"YOU VISITED ";UU;"SPATIAL SECTORS
OUT OF 625"
31515 PRINT
31520 INPUT"DO YOU WANT TO REENTER THE MAZE";BS
31530 IF LEFT$(BS,1)="Y" THEN RUN
31540 CLS
31545 CLEAR
31550 END
32000 HIRE$
32002 PLAY 1,0,0,0
32005 CURSET 21,0,3
32010 FOR N=198 TO 2 STEP-2
32020 DRAW N,0,1
32030 DRAW 0,N,1
32040 DRAW -N,0,1
32050 DRAW 0,-N,1
32060 SOUND 1,N,10
32070 NEXT
32100 CURSET 219,0,3
32110 FOR N=198 TO 2 STEP-2
32120 DRAW -N,0,2
32130 DRAW 0,N,2
32140 DRAW N,0,2
32150 DRAW 0,-N,2
32160 SOUND 1,198-N,10
32170 NEXT
32180 PLAY 0,0,0,0
32185 EXPLODE
32190 RETURN

```

3D Bar Chart

By M. J. Hall



This program is designed to give a graphical result in the form of a 3D bar chart which can have a maximum of 12 items. It gives the user the choice of how many items there are provided that there are no more than 12. Also in the program for a title where if the user wants a scale, then he/she must put the scale in there and remember to make sure that the largest actual number is less than or equal to 1500. The program also asks the user to enter labels for the x and y axis's, and labels for each bar which can only be 2 characters in length (max) and so it could be made better by having the labels on the bars, which I haven't done because it was meant for the initials of the months etc. Also this program works out a scale for the y axis and at the end asks the user if he/she wishes to display any more information. If the user does then the program starts again otherwise it ends.

```

10 PAPER0:INK1:TEXT:CLS
20 DIM M$(12),DTA(12),IS(12)
30 GOSUB 5000
40 HIRES:INK1
50 FOR P=41367 TO 48127 STEP40:POKEP,2:NEXTP
60 FOR P=41007 TO 41247 STEP40:POKEP,4:NEXTP
70 FOR P=48567 TO 49127 STEP40:POKEP,7:NEXTP
80 INPUT"Please enter the title (in less than 30 letters)";
  A$:CLS
90 IF LEN(A$)>30 THEN PRINT"That is too long, try
  again":GOTO 80
100 INPUT"What do you wish to label the x axis—with
  (<=than 30 letters)";X$:CLS
110 IF LEN(X$)>30 THEN PRINT"That is too long, try
  again":GOTO 100
120 INPUT"What do you wish to lable the y axis with
  (<=22 letters)";Y$:CLS
130 IF LEN(Y$)>22 THEN PRINT"That is too long, try
  again":GOTO 120
140 FOR C=1 TO N
150 PRINT"Enter 1-2 initials for item ";C;" on the x axis
  please";INPUT IS(C)
160 IF LEN(IS(C))>2 THEN GOTO 150
170 NEXTC
180 CURSET41,0,3:DRAW0,180,1:DRAW196,0,1
190 X=48
200 FOR C=1 TO N
210 CURSETX,182,3
220 FOR A=1 TO LEN(IS(C))
230 CHAR ASC(MID$(IS(C),A,1)),0,1
240 CURMOV6,0,3
250 NEXT A
260 IF DTA(C)=0 THEN 340
270 CURSETX,180,3
280 DRAW0,—DTA(C) X SC,1:DRAW8,0,1
290 DRAW0,DTA(C) X SC,1
300 CURSETX,180,—(DTA(C) X SC),3
310 DRAW4,—4,1:DRAW8,0,1:DRAW—4,4,1
320 CURSETX+12,180,—(DTA(C) X SC)—4,1
330 DRAW0,DTA(C) X SC,1:DRAW—4,4,1
340 X=X+16
350 NEXTC
360 CURSET50,1,3
370 FOR S=1 TO LEN(A$)
380 CHAR ASC(MID$(A$,S,1)),0,1
390 CURMOV6,0,3
400 NEXT S
410 CURSET50,190,3
420 FOR S=1 TO LEN(X$)
430 CHAR ASC(MID$(X$,S,1)),0,1
440 CURMOV6,0,3
450 NEXTS
460 CURSETI,20,3
470 FOR S=1 TO LEN(Y$)
480 CHAR ASC(MID$(Y$,S,1)),0,1
490 CURMOV0,8,3
500 NEXT S
510 YY%=180:C=0
520 REPEAT
530 C=C+1
540 L%=L%+VAL(KK$)—WW+O
550 C$(C)=STR$(L%)
560 YY%=YY%—VAL(KK$) XSC

```

Oric Quickies

3D Bar Chart Listing

```
570 O=WW
580 UNTIL YY%<10
590 YY%=180:C=0
600 REPEAT
610 C=C+1
620 CURSET14,YY%,3
630 FOR S=2, TO LEN(C$(C))
640 CHAR ASC(MID$(C$(C),S,1))0,1
650 CURMOV6,0,3
660 NEXTS
670 YY%=YY%—VAL(KK$) X SC
680 UNTIL YY%<10
690 YY%=180
700 REPEAT
710 CURSET36,YY%,3:DRAW4,0,1
720 YY%=YY%—VAL(KK$) X SC
730 UNTIL YY%<10
740 YY%=180
750 REPEAT
760 YY%=YY%—VAL(KK$) X (SC XM)
770 CURSET38,YY%,3:DRAW2,0,1
780 UNTIL YY%<10
790 CLS
800 INPUT"DO you wish to display any more      information (Y/N)";Q$
810 IF LEFTS(Q$,1)="Y" OR LEFTS(Q$,1)="N" THEN 820 ELSE
      CLS:GOTO 800
820 IF Q$="Y" THEN RUN
830 TEXT
840 PLOT8,10,"XXXXXXXXXXXXXXXXXXXXXXX"
850 PLOT8,11,"X" X"
860 PLOT8,12,"X" X"
870 PLOT8,13,"X" X"
880 PLOT8,14,"X" X"
890 PLOT8,15,"XXXXXXXXXXXXXXXXXXXXXXX"
900 PLAY,0,0,0
910 FOR C=1 TO 6
920 SOUND1,500,10
930 PLOT11,12,"THIS PROGRAM HAS"
940 PLOT15,13,"NOW ENDED"
950 WAIT20
960 SOUND1,300,10:WAIT20
970 SOUND1,400,10
980 PLOT11,12," "
990 PLOT15,13," "
1000 WAIT20:SOUND1,600,10
1010 NEXT C
1020 PLAY0,0,0,0:POKE126A,10:CLS:PRINT CHR$(19):INK0:END
2000 REM INITIALIZATION
2010 FOR C=1 TO N
2020 READ M$(C)
2030 NEXTC
2040 RETURN
2050 DATA FIRST, SECOND, THIRD, FOURTH, FIFTH, SIXTH,
      SEVENTH, EIGHTH, NINTH, TENTH
2060 DATA ELEVENTH, TWELTH
5000 REM X START OF PROGRAM X
5010 PRINT"Please enter the number of items      (MAX is 12)";
5020 INPUT N
5030 IFN<1 ORN>12 ORN<>INT(N)THENPRINT"INCORRECT
      ENTRY,TRY AGAIN":GOTO 5020
5040 GOSUB 2000
5050 FOR C=1 TO N
5060 PRINT"PLEASE ENTER"; M$(C);" ITEM OF DATA";
5070 INPUT DTA(C)
5080 IF MA<DTA(C) THEN MA=DTA(C)
5090 IF DTA(C)<0THEN PRINT"INCORRECT ENTRY,TRY AGAIN";
      GOTO 5060
5100 IF MA>1500 THEN PRINT"OVERFLOW ERROR, START
      AGAIN", WAIT400:RUN
5110 NEXTC
5120 IF MA<=100 THEN SC=1.5:KK$="20":WW=20:M=.33:RETURN
5130 IF MA<=200 THEN SC=.8:KK$="40":WW=40:M=.25:RETURN
5140 IF MA<=300 THEN SC=.55:KK$="60":WW=60:M=.33:RETURN
5150 IF MA<=400 THEN SC=.4:KK$="80":WW=80:M=.25:RETURN
5160 IF MA>=401 THEN SC=.1:KK$="300":WW=300:M=.33:RETURN
5170 RETURN
```

Oric Quickies

Map of England

By C. Kingham



This is a Hires program that draws the outline of the British Isles.

It also draws on the screen a few randomly chosen cities throughout England, Scotland and Wales.

This program allows for others to embellish or change it as desired.

```
10 REM *****
20 REM * MAP OF ENGLAND C.KINGHAM *
30 REM *****
40 RESTORE
50 CLS
60 Hires
70 PAPER 7:INK 0
80 PRINT CHR$(17)
90 WAIT 100
100 CURSET 60,20,3
110 L$="THE BRITISH ISLES"
120 FOR L=1 TO LEN(L$)
130 CHAR ASC(MID$(L$,L,1)),0,1
140 CURMOV 6,0,0:NEXT L:WAIT 100
150 CURSET 119,40,3
160 REPEAT
170 READ A,B
180 WAIT 10
190 DRAW A,B,1
200 UNTIL A=-1
210 DATA 1,7,-9,5,3,2,-5,4,5,1,6,-4,12,5,-6,14,-7,3,5,0,-6,5,1,2,6,-2,8,7
220 DATA 4,16,5,2,11,13,-1,2,-8,-3,8,7,-2,7,2,1,2,-5,9,1,1,9,-12,16,1,2,1,-2
230 DATA 3,2,3,-2,3,2,-8,8,-2,-2,4,4,-6,-3,-11,1,-11,3,-4,-3,-5,3,1,3,-7,1
240 DATA -3,-2,-7,4,-1,2,-3,1,-1,-2,-3,1,-1,-3,6,-2,1,-3,4,-1,3,-7,5,-2,9,-1
250 DATA 5,-7,-9,5,-6,-4,-2,2,-1,-2,-3,-2,-7,4,-2,-4,2,-2,13,-7,1,-10,-5,1
260 DATA 0,-3,5,-5,10,-1,1,-5,-2,-2,3,-4,-4,1,-4,-9,4,-6,-7,3,-3,1,-1,2
270 DATA -5,-2,-3,1,-1,-4,5,-7,-1,-7,-1,-5,3,-1,-2,-3,-4,3,-2,-2,-1,-4,-2,0
280 DATA -3,11,-3,2,2,-8,2,-9,5,-1,1,-2,-3,1,-4,-3,4,-1,-1,-3,3,-1,1,-5
290 DATA -3,-1,1,-4,6,-2,-1,-4,4,1,1,-3,5,-2,3,2,8,-3,3,4,-1,0
300 WAIT 50
310 CURSET 104,168,3
320 CIRCLE 1.5,1
330 CURSET 60,165,3
340 A$="Plymouth"
350 FOR A=1 TO LEN(A$)
360 CHAR ASC(MID$(A$,A,1)),0,1
370 CURMOV 5,0,0:NEXT A
380 WAIT 50
390 CURSET 129,155,3
```

```
400 CIRCLE 1.5,1
410 CURSET 85,153,3
420 B$="Bristol"
430 FOR B=1 TO LEN(B$)
440 CHAR ASC(MID$(B$,B,1)),0,1
450 CURMOV 5,0,0:NEXT B
460 WAIT 50
470 CURSET 115,150,3
480 CIRCLE 1.5,1
490 CURSET 77,143,3
500 C$="Cardiff"
510 FOR C=1 TO LEN(C$)
520 CHAR ASC(MID$(C$,C,1)),0,1
530 CURMOV 5,0,0:NEXT C
540 WAIT 50
550 CURSET 129,135,3
560 CIRCLE 1.5,1
570 CURSET 75,132,3
580 D$="Birmingham"
590 FOR D=1 TO LEN(D$)
600 CHAR ASC(MID$(D$,D,1)),0,1
610 CURMOV 5,0,0:NEXT D
620 WAIT 50
630 CURSET 125,119,3
640 CIRCLE 1.5,1
650 CURSET 71,116,3
660 E$="Manchester"
670 FOR E=1 TO LEN(E$)
680 CHAR ASC(MID$(E$,E,1)),0,1
690 CURMOV 5,0,0:NEXT E
700 WAIT 50
710 CURSET 103,82,3
720 CIRCLE 1.5,1
730 CURSET 65,79,3
740 F$="Glasgow"
750 FOR F=1 TO LEN(F$)
760 CHAR ASC(MID$(F$,F,1)),0,1
770 CURMOV 5,0,0:NEXT F
780 WAIT 50
790 CURSET 130,95,3
800 CIRCLE 1.5,1
810 CURSET 134,91,3
820 G$="Newcastle"
830 FOR G=1 TO LEN(G$)
840 CHAR ASC(MID$(G$,G,1)),0,1
850 CURMOV 5,0,0:NEXT G
860 WAIT 50
870 CURSET 144,116,3
880 CIRCLE 1.5,1
890 CURSET 148,111,3
900 H$="Hull"
910 FOR H=1 TO LEN(H$)
920 CHAR ASC(MID$(H$,H,1)),0,1
930 CURMOV 5,0,0:NEXT H
940 WAIT 50
950 CURSET 159,135,3
960 CIRCLE 1.5,1
970 CURSET 163,132,3
980 I$="Norwich"
990 FOR I=1 TO LEN(I$)
1000 CHAR ASC(MID$(I$,I,1)),0,1
1010 CURMOV 5,0,0:NEXT I
1020 WAIT 50
1030 CURSET 132,163,3
1040 CIRCLE 1.5,1
1050 CURSET 132,168,3
1060 J$="Portsmouth"
1070 FOR J=1 TO LEN(J$)
1080 CHAR ASC(MID$(J$,J,1)),0,1
1090 CURMOV 5,0,0:NEXT J
1100 WAIT 50
1110 CURSET 146,154,3
1120 CIRCLE 2.0,1
1130 CURSET 150,151,3
1140 K$="London"
1150 FOR K=1 TO LEN(K$)
1160 CHAR ASC(MID$(K$,K,1)),0,1
1170 CURMOV 5,0,0:NEXT K
1180 GOTO 1180
```

No of records = 118

Word – 1

By David Peat

“Word-1” is a word-processor in basic for the Oric-1.

It allows you to enter up to 10 screens of text (this can be changed by changing every number 10 in the program to the number of screens you want) to be entered and edited. The keyboard works normally except for the cursor keys.

EDITING

Pressing either the left or right cursor keys gives EDIT mode. In this, choose which line of text you wish to edit then move the arrow under the letter you wish to change using the cursor keys and press “RETURN” then enter the letter you wish to put in its place.

“DEL” deletes the last character you entered in the line and escape “ESC” gives you the menu. Pressing either of the up or down keys will move you onto a new screen and “RETURN” gives carriage-return.

MENU

You are shown the menu:

1. LIST SCREEN N
2. LIST SCREEN X UNTIL LINE Y
3. LIST SCREEN X TO Y
4. PRINT SCREEN N
5. PRINT SCREEN X UNTIL LINE Y
6. PRINT SCREEN X TO Y

After choosing you are asked:
Do you want:

1. a continuous listing or
2. a page by page listing.

Option 1 lists the screens chosen non-stop while option 2 pauses in between and waits for a key to be pressed.

Back to the menu. . .

1. causes screen N to be listed. You enter N.
2. causes screen N to be listed to line Y.
3. causes screens X to Y to be printed on the screen. Best used with option 2 above.

Options 4, 5 and 6 do exactly the same but print on a printer other than the screen.

```
2 CLS:GOSUB10000
5 CLS:PRINTCHR$(20);CHR$(17)
6 PRINTCHR$(6)
10 DIMA$(10,26):PO=48041
50 TS="WORD-PROCESSOR":FORN=1TO14:POKE48013+N,ASC(MID$(TS,N,1)):NEX
T
90 FORN=1TO10:PLOT10,10,"SCREEN "+STR$(N):GETK$:CLS
95 PO=48041
96 TAB=10
100 FORL=0TO26:PO=48041+(40*L):FORC=0TO38
110 POKEPO ,45: PK=PEEK(PO-1)
120 GETK$:SOUND1,100,0:PLAY1,0,1,150
130 IFK$=CHR$(13)THENGOTO 2000
140 IFK$=CHR$(8)OR K$=CHR$(9) THENGOSUB1000:SOUND1,80,0:PLAY1,0,2,2
00:GOTO120
145 IFK$=CHR$(10)ORK$=CHR$(11)THEN440
150 IFK$=CHR$(27)THENGOSUB6000
160 IFK$=CHR$(127)THENGOTO2500
165 IFASC(K$)432THEN120
400 POKEPO,ASC(K$):PO=PO+1:POKEPO,45:PK=PEEK(PO+1)
410 AS(N,L)=AS(N,L)+K$
420 NEXTC:SOUND1,80,0:PLAY1,0,1,200
425 PO=PO+1:PK=PEEK(PO)
430 NEXTL
440 PING:NEXTN
450 GOSUB6000
460 GOTO240
1000 CLS:PRINT"WHICH LINE.0-26":INPUTEL:IFEL426OREL40ORINT(EL)44EL
THEN1000
1010 CLS
1020 PLOT0,5,AS(N,EL)
1030 S=0:PLOTS,6,"k"
1040 K$=KEY$:IFK$=CHR$(8)ANDS40THENPLOTS,6," ":S=S-1
1045 PLOTS,6,"k"
1050 IFK$=CHR$(9)ANDS438THENPLOTS,6," ":S=S+1
1060 IFK$=CHR$(13)THEN1100
1070 GOTO1040
1100 PLOTS,6,"k"
1110 PLOTS,5," ":PLOT0,10,"Which character.":GETFS:PLOTS,5,FS
1115 IFS=0THENBS=AS(N,EL):AS(N,EL)="":GOTO1222
```

Word – 1 Listing

```

1120 BS=AS(N,EL):AS(N,EL)="" :FORH=1TOS :AS(N,EL)=AS(N,EL)+MIDS(BS,
H,1):NEXTH
1121 IFS36THENAS(N,EL)=AS(N,EL)+FS:GOTO1130
1122 AS(N,EL)=AS(N,EL)+FS:FORH=S+2T038:AS(N,EL)=AS(N,EL)+MIDS(BS,H,
1):NEXT
1130 PLOT0,10,"Any more to be changed in this row?":GETFS:IFFS="Y" T
HEN1010
1140 IFFS="N" THENCLS:FORG=0T026:PLOT0,G,AS(N,G):NEXTG:RETURN
1150 GOTO1130
2000 POKEPO,32
2001 NEXTL
2005 PING:NEXT:GOSUB6000:GOTO120
2500 IF C=OANDL10THENC=38:L=L-1:PO=PO-1:GOTO2510
2503 POKEPO,32
2505 C=C-1
2506 IF C=0THENAS(N,L)="" :GOTO120
2510 PO=PO-1:POKEPO,45:BS=AS(N,L):AS(N,L)="" :AS(N,L)=LEFTS(BS,C )+
" "
2511 AS(N,L)=AS(N,L)+RIGHTS(BS,LEN(BS)-C-1)
2512 GOTO120
6000 P=0
6005 SS="N"
6010 CLS
6020 PRINT:PRINT"1. LIST SCREEN N"
6030 PRINT"2. LIST SCREEN N UNTIL LINE Z"
6040 PRINT"3. LIST SCREEN X TO Y"
6060 PRINT"4. PRINT SCREEN N"
6070 PRINT"5. PRINT SCREEN N UNTIL LINE Z"
6080 PRINT"6. PRINT SCREEN X TO Y"
6100 PLOT0,14,"SELECT PROCESSING CHOICE"
6110 GETD
6120 IFD10RD16ORINT(D)11ADTHEN6100
6123 CLS
6125 IFD13THENP=1
6130 CLS
6135 IFD13THEND=D-3
6140 PR=6200+(100*D)
6150 GOTOPR
6300 IFF=0THENPLOT0,2,"1. LIST SCREEN N"
6305 IFF=1THENPLOT0,2,"4. PRINT SCREEN N"
6310 PRINT:PRINT:PRINT:INPUT"Enter N":X
6345 IFX10RX10ORX11INT(X)THENCLS:GOTO6300
6350 Y=26
6360 GOTO8000
6400 IFF=0THENPLOT0,2,"2. LIST SCREEN N UNTIL Z"
6405 IFF=0THENPLOT0,2,"5. PRINT SCREEN N UNTIL Z"
6410 PLOT0,4,"Enter N":GETX
6417 IFX10RX10ORX11INT(X)THEN6410
6425 PLOT0,4,"Enter Z":GETZ
6440 IFZ10RZ11INT(Z)ORZ126THEN6425
6450 GOTO8000
6500 IFF=0THENPLOT0,2,"3. LIST SCREEN X TO Y"
6505 IFF=1THENPLOT0,2,"7. PRINT SCREEN X TO Y"
6510 PLOT0,4,"Enter X":GETX
6515 IFX10RX19THENGOTO6510
6520 PLOT0,4,"Enter Y":GETZ:Y=26
6525 IFZ10RZ11XTHEN6520
6540 GOTO8000
8000 CLS
8005 IFF=1THEN8100
8010 PLOT0,2,"Do you want:"
8020 PLOT0,4,"1. A continuous listing or,"
8030 IFF=0THENPLOT0,5,"2. A page by page listing."
8040 PLOT0,9,"ENTER CHOICE":GETQ:IFQ11ANDQ12THEN8040
8070 GOTO8200
8200 FORS=XTOZ
8220 CLS
8230 IFQ=2ANDP=0THENPLOTS,10,"SCREEN"+STR$(S)
8240 IFQ=2ANDP=0THENWAIT100
8241 CLS
8250 IFF=1ANDSS="Y" THENLPRINT:LPRINT"-----"
8270 IFF=1ANDSS="Y" THENLPRINT
8275 FORT=0TOY
8280 PLOT0,T,AS(X,T)
8310 IFF=0THEN8350
8312 LPRINTAS(X,T)
8350 REM
8360 IFF=1ANDSS="Y" THENLPRINT:LPRINT"-----"
8370 IFF=1ANDSS="Y" THENLPRINT
8380 IFFS="Y" THENREPEAT:UNTILKEYS11""
8381 NEXTT,S
8390 RETURN
10000 TS="WORD-PROCESSOR":FORN=1T014:POKE48013+N,ASC(MIDS(TS,N,1)):
NEXT
10010 PRINT:PRINT"Use this program to enter up to 10 "
10020 PRINT"screens of text."
10030 PRINT"Editing:"
10040 PRINT"Pressing 'DEL' will delete the last character."
10050 PRINT"Pressing any one of the left and "
10060 PRINT"right cursor keys puts you into edit mode."
10070 PRINT"Enter the line you want to edit(0-26)"
10080 PRINT"and then move the arrow under the letter you want r
emoved and"
10090 PRINT"press 'RETURN'."
10100 PRINT"Menu:"
10110 PRINT"Pressing 'ESC' gives you the menu."
10120 PRINT"Press 'RETURN' for carriage return."
10130 PRINT:PRINT"Press a key.":REPEAT:UNTILKEYS11"" :CLS:RETURN

```

'Derby Day'

By M. J. Hall

This program is a horse racing game as you can tell from the title, where you have to enter the number of players between 2 and 8, and then the odds are printed up for the eight horses. The odds range from 1 to 8, one being the lowest and eight the highest due to the fact that if you win a race, the amount of money that you bet is multiplied by the odds, so eight will give you eight times as much and one only one times the amount. After that each player will have to enter the horse that he/she wishes to bet on and the amount that he/she wishes to bet on that horse. This must be done in turn and then that order kept until the end of that game. Once everyone has placed their bet, a table of the number of horse, bet and odds is printed up so everyone can see what they have bet and the odds and number of that horse. The program then proceeds and goes through the graphics and finally produces a winning horse. Then the program prints up any winners and any bankrupt people. It continues doing this until there is either one player left with something to bet with or until no-one has any money left. At this point the program gives the users the choice of another game or not, where if they don't then the program goes to the ending routine and ends, or else it starts again.

```

470 REPEAT:GET H$(X):H(X)=VAL(H$(X)):UNTIL H(X)=1 AND H(X)<=8
480 PRINT" PLACE YOUR BET, WHICH HAS TO BE <= ML(X):INPUT B(X)
490 IF B(X)<=0 OR B(X)>ML(X) THEN GOSUB 6000:PRINT:PRINT:GOTO 490
500 PRINT
510 NEXT X
520 NEXT T
530 PRINT CHR$(27):"T" "CH$(27):"L" PRESS SPACE BAR TO CONTINUE"
535 GET A$:IF A$=CHR$(32) THEN 540 ELSE555
540 G1S:T=0
545 PRINT:PRINT
550 PRINT"-----I"
551 PRINT"I NO. OF HORSE BET ODDS I"
552 PRINT"-----I"
560 FOR X=1 TO N
565 IF ML(X)=0 THEN GOTO 590
570 LET G=H(X)
575 PIOT1,7+T,124:PIOT38,7+T,124
580 PIOT7,7+T,STR$(H(X)):PIOT29,7+T,STR$(B(X)):PIOT29,7+T,STR$(O(G))
582 POKE 48328+(T*40),0:POKE 48341+(T*40),0:POKE 48350+(T*40),0
585 T=T+1
590 NEXT T
595 PRINT"-----I"
596 PRINT"-----I"
600 WAIT400
610 GOSUB5150
620 PRINT"-----I"
630 PRINT"X"
640 PRINT"X THE WINNING HORSE WAS "I,X"
650 PRINT"X"
660 PRINT"X"
670 PRINT"-----I"
680 PRINT:PRINT
1000 PRINT:PRINT
1002 PRINT CHR$(27):"T" "CH$(27):"L" PRESS SPACE BAR TO CONTINUE"
1005 GET A$:IF A$=CHR$(32) THEN 1010 ELSE 1005
1010 G1S
1020 FOR X=1 TO N
1030 IF H(X)=0 THEN GOSUB 4000 ELSE LET ML(X)=ML(X)-B(X)
1040 IF ML(X)<=0 AND MV(X)=1 THEN MV(X)=0
1050 IF ML(X)<=0 THEN PRINT"PLAYER NO. "I,X": IS BANKRUPT:ML(X)=0:B(X)=0:H(X)=0
1060 NEXT X
1065 WAIT250
1070 GOTO 200
4000 REM *****
4001 REM X WINNING ROUTINE X
4002 REM *****
4010 LET G=H(X)
4020 LET AM(X)=O(G)*B(X)
4030 PRINT"*****"
4040 PRINT"X AMOUNT WON="I,AM(X):"BY PLAYER NO. "I,X":X"
4050 PRINT"X"

```

```

2 COSUB 8000
5 CLEAR
10 COSUB 7000
20 COSUB 8200
90 CLS

100 PRINT
110 PRINT "NB: Between 2 and 8 players"
120 PRINT "-----"
130 PRINT "ENTER THE NUMBER OF PLAYERS PLEASE"
140 PRINT "N=VAL(1$):UNTIL N<=8 AND N<=8"
150 REM H(8),O(8),ML(8),AW(8)
160 FOR X=1 TO N:ML(X)=1:NEXTX
170 D=MM(1)+MM(2)+MM(3)+MM(4)+MM(5)+MM(6)+MM(7)+MM(8)
180 IF D=1 THEN 19000
200 IF D=1 THEN 19000
210 REM ** MONEY CHECKING ROUTINE **
220 IF P=1 THEN 5000
230 PRINT:PRINT:PRINT:PRINT
240 LET P=1+ML(1)+ML(2)+ML(3)+ML(4)+ML(5)+ML(6)+ML(7)+ML(8)
250 REM *****
260 PRINT:PRINT:PRINT:PRINT
270 PRINT:PRINT:PRINT:PRINT
280 PRINT:PRINT:PRINT:PRINT
290 PRINT:PRINT:PRINT:PRINT
300 PRINT:PRINT:PRINT:PRINT
310 CLS
320 LET T=0
330 PRINTING_OF
340 PRINT:PRINT:PRINT:PRINT
350 LET O=C-INT(8 * RND(1))+1
360 T=T+1
370 PRINT
380 PRINT TAB(10);T;TAB(22);"1:";O(C);TAB(20);1$(T)
390 NEXTC
400 PRINT CHR$(27);"T"
410 PRINT CHR$(27);"L PRESS SPACE BAR TO CONTINUE"
420 PRINT
430 PRINT
440 FOR X=1 TO N
450 IF ML(X)<=0 GOTO 510
500 PRINT:PLAYER No.;"X;" HAS ";ML(X);" TO BET WITH"
510 PRINT
520 PRINT
530 PRINT
540 PRINT
550 PRINT:ENTER THE HORSE NUMBER PLEASE"

```

```

4070 PRINT"*****"
4080 LET ML(X)=AW(X)+ML(X)
4090 IF ML(X)<0 THEN LET ML(X)=0
4095 PRINT"PLAYER No.:";X;" HAS ";ML(X);" LEFT TO BET"
4100 PRINT CHR$(27);"T "+CHR$(27);"L PRESS SPACE BAR TO CONTINUE"
4105 GET A$:IF A$=CHR$(32) THEN 4110 ELSE 4105
4110 RETURN
5000 REM *****
5020 PRINT"Do you want another game (Y/N)"
5025 GET A$
5030 IF A$="Y" THEN GOTO10
5035 IF A$="N" THEN 5040 ELSE 5025
5040 LORES0
5050 FOR Q=1 TO 10
5060 PLOTS,10,"THIS PROGRAM HAS NOW ENDED"
5070 WAIT50
5080 MUSIC1,3,3,15
5090 PLAY1,0,2,50
5110 PLOTS,10," "
5120 WAIT20
5125 PLAY0,0,0,0
5130 NEXTQ
5135 CLS:INK1:PRINT CHR$(19)
5140 END
5150 REM ** GRAPHICS ROUTINE **
5160 CLS:PAPER0:INK7
5170 POKE49040,17:POKE49080,17:POKE49000,17
5180 POKE48962,48:POKE49002,124:POKE49042,124
5190 PLOT10,2,"THEY'RE UNDER STARTERS ORDERS"
5195 WAIT100
5200 PLOT10,2," "
5210 SHOOT:WAIT75
5220 PLOT15,2," "
5230 SOUND3,1,10
5290 PLAY4,1,3,200
5300 FOR S=1 TO 5
5310 WAIT50
5320 D=INT(7 *RND(1))+1
5330 IF D=1 THEN 5320
5340 FOR X=49033 TO 49008 STEP-5
5360 POKEX-1,D:POKEX-44,D:POKEX+38,D
5370 POKEX,127:POKEX+1,127:POKEX+2,127
5380 POKEX+39,33:POKEX+43,123
5390 POKEX+8,113:POKEX-41,122:POKEX-42,120
5395 POKEX-39,106:POKEX-40,107
5400 WAIT20
5410 POKEX,32:POKEX+1,32:POKEX+2,32
5420 POKEX+39,32:POKEX+43,32
5430 POKEX+3,32:POKEX-41,32:POKEX-42,32
5435 POKEX-39,32:POKEX-40,32
5440 POKEX,127:POKEX+1,127:POKEX+2,127
5450 POKEX+40,123:POKEX+42,33
5460 POKEX+3,113:POKEX-41,122:POKEX-42,120
5465 POKEX-39,106:POKEX-40,107
5470 WAIT20
5480 POKEX,32:POKEX+1,32:POKEX+2,32
5490 POKEX+40,32:POKEX+42,32
5500 POKEX+3,32:POKEX-41,32:POKEX-42,32
5505 POKEX-39,32:POKEX-40,32
5510 NEXTX
5520 G=INT(3 *RND(1))+1:IF G=1 THEN H$="LENGTH"ELSE H$="LENGTHS"
5530 Z=INT(8 *RND(1))+1:IF S=5 THEN 5620
5540 PLOT3,2," "
5550 PLOT2,2,2
5560 IF S=4 THEN W=INT(8 *RND(1))+1:GOTO 5590
5570 PLOT3,2,"NUMBER ":PLOT7,2,STR$(Z):PLOT12,2,"IS LEADING BY"
5575 PLOT25,2,STR$(G)
5580 PLOT29,2,H$:GOTO 5620
5590 PLOT10,2,"THEY'RE COMING UP TO THE":PLOT15,3,"LAST STRAIGHT"
5595 PING:WAIT50:PING:WAIT50:PING:WAIT20:SOUND3,1,10:PLAY4,1,3,200
5600 PLOTS,4,"NUMBER":PLOT15,4,STR$(W):PLOT18,4,"IS CATCHING UP":WAIT75
5610 PLOT10,2," "
5615 PLOTS,4," "
5620 NEXTS
5630 WAIT200
5640 INK0:PAPER1
5650 CLS
5660 RETURN
6000 REM ** INCORRECT ENTRY ROUTINE **
6010 CLS

```

```

6020 PLOTS,10,"*****"
6030 PLOTS,11,"X"
6040 PLOTS,12,"X INCORRECT ENTRY X"
6050 PLOTS,13,"X"
6060 PLOTS,14,"*****"
6070 FOR C=1 TO 3
6080 MUSIC1,2,3,15
6090 PLAY1,2,3,15
6100 WAIT30
6110 PLAY0,0,0,0
6120 WAIT20
6130 NEXTC
6140 CLS
6150 RETURN
7000 REM ** INITIALIZATION **
7010 PAPER1:INK0
7020 POKE226A,10 ← £ sign is meant to be a hash (#)
7030 CLS
7040 I$(1)="FIREFLY":I$(2)="RED RUM":I$(3)="SILVER DREAM":I$(4)="SPARTICUS"
7050 I$(5)="BLACK PRINT":I$(6)="BLACK BESS":I$(7)="KING CHARLES V"
7060 I$(8)="BEECHERS BROOK"
7070 RETURN
8000 REM *****
8010 REM ** CHARACTER DEFINITION **
8020 REM *****
8030 A=46080
8040 FOR N=0 TO 7:READX:POKE(A+856+N),X:NEXTN
8050 DATA 0,0,0,0,0,63,0,0
8060 FOR N=0 TO 7:READX:POKE(A+264+N),X:NEXTN
8070 DATA 7,7,7,56,56,56,56,56
8080 FOR N=0 TO 7:READX:POKE(A+960+N),X:NEXTN
8090 DATA 15,15,15,15,15,0,0,0
8100 FOR N=0 TO 7:READX:POKE(A+976+N),X:NEXTN
8110 DATA 48,48,48,48,48,15,15,15
8120 FOR N=0 TO 7:READX:POKE(A+984+N),X:NEXTN
8130 DATA 56,56,56,7,7,7,7,7
8140 FOR N=0 TO 7:READX:POKE(A+904+N),X:NEXTN
8150 DATA 63,63,0,0,0,0,0,0
8160 FOR N=0 TO 7:READX:POKE(A+848+N),X:NEXTN
8170 DATA 30,62,30,12,30,62,63,31
8180 RETURN
8200 REM ** INSTRUCTIONS **
8210 CLS:PRINT:PRINT
8220 PRINT CHR$(4)
8230 PRINT CHR$(27);"T "+CHR$(27);"N DERBY DAY"
8235 PRINT CHR$(4)
8236 PRINT:PRINT
8240 PRINT" THIS GAME WAS DESIGNED"
8250 PRINT" BY MARTYN.J.HALL"
8260 PRINT:PRINT
8270 PRINT" The object of the game"
8280 PRINT" is to use your skill and"
8290 PRINT" luck to bet on horses,and"
8300 PRINT" be the winner of the game"
8310 PRINT" by being the last person"
8320 PRINT" in.If there isnt a last"
8330 PRINT" person in the game,then"
8340 PRINT" there wont be a winner so"
8350 PRINT" you have to make sure that"
8360 PRINT" you bet carefully if you"
8370 PRINT" want to win.During each game"
8380 PRINT" the odds are only printed"
8390 PRINT" up once,so the users will"
8400 PRINT" have to make sure that"
8410 PRINT" everyone is ready to"
8420 PRINT" continue.
8430 PRINT:PRINT
8440 PRINT CHR$(27);"T "+CHR$(27);"L PRESS SPACE BAR TO CONTINUE"
8450 GET A$:IF A$=CHR$(32) THEN 8460 ELSE 8450
8460 CLS
8470 RETURN
10000 REM ** ROUTINE TO PRINT UP **
10010 REM ** WINNER OF THE GAME **
10020 REM
10030 PRINT:PRINT
10040 FOR X=1 TO N
10050 IF ML(X)<0 THEN 10060
10055 PRINT"PLAYER ";X;" IS THE WINNER OF THE GAME"
10056 PRINT:PRINT"WITH ";ML(X);" LEFT":PRINT
10060 NEXTX
10070 PRINT"PRESS SPACE BAR TO CONTINUE":PRINT
10080 GET A$:IF A$=CHR$(32) THEN 5000 ELSE 10080

```

Derby-day Listing

Oric Quickies

Oric Quickies

Oric Demonstration Program

By Karl Williams

Lines 150-190 can be deleted to omit the Random Circles.

```
10 PAPER4:INK7
20 HIRES:INK0:FORX=1TO40
30 FORA=1TO6
40 B=INT(RND(1)*235)
50 C=INT(RND(1)*168)
60 CURSETB,C,3
70 D=RND(1)*6+17
80 E=INT(RND(1)*30)+1
90 FILLE,1,D
100 F=INT(RND(1)*8)

110 G=INT(RND(1)*12)+1
120 H=INT(RND(1)*5)+10
130 MUSIC1,F,G,H
140 NEXTA
150 I=INT(RND(1)*160)+40
160 J=INT(RND(1)*120)+40
170 CURSETI,J,3
180 K=INT(RND(1)*30)+9
190 CIRCLEK,1
200 NEXTX
```

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SEVERN SOFTWARE

Please send me your.....program.
For my Oric-1

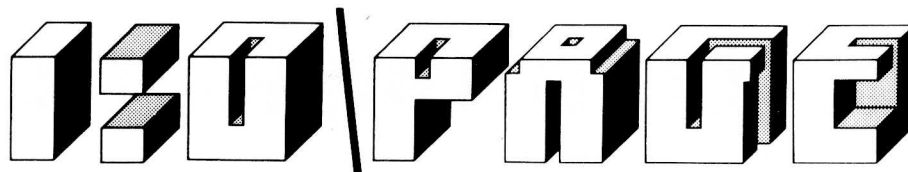
I enclose cheque/P.O. for £.....

NAME.....

ADDRESS.....

.....Post Code.....

SEVERN SOFTWARE
OO 5, School Crescent, Lydney, Glos. GL15 5TA.



A doctor and scientist's thoughts on the Oric-1

Having decided to buy the Oric-1 48K RAM I can only hope it will gain popularity so that a multitude of add-ons, programs etc. will be available. I therefore forward these ponderings in the hope they may be useful to you, being well aware that you probably are flooded with "bright ideas".

First of all, why did I buy your machine? I heard of a colleague who bought a ZX-81 with manuals and other books in order to learn basic programming. He worked his way through this and then gave the device to his son. As he remarked, the cost for doing so was small compared to what you usually pay for medical courses (A weeks course in London amounts to 350 pounds + travel expenses). Thus home-computers provide a fairly cheap and comfortable way to learn programming, even when you have access to bigger computers at the job.

When deciding for the Oric I was helped by a friend, who had worked with computers since the sixties and who is now a mathematician and a doctor. The arguments for one who have access to quite a deal of hard-

ware, and even heavy computers, runs thus in favour of Oric:

1. The keyboard looks like that of ordinary computers/terminals. The Spectrum looks more like Italian salad than like a computer. I would have willingly paid another 50 pounds for a real hardtop keyboard, but found the Commodore 64 too expensive, when considering my ready access to computer-machinery at the hospital. Give it a thought. Others sell home-computers with plug-in keyboard!

2. The Oric has ports making it suitable for someone like me, who has printers, monitors etc. available at the hospital.

3. According to my adviser the 6502 processor is well suited for Pascal, a language he recommends.

4. I am interested in music and thus may have fun with the synthesizer. But this argument was of lesser importance. Except maybe Chess games are not of interest. . . unless they have relation to medicine/research as a sort of self teaching thing. I am quite allergic to ping and pang.

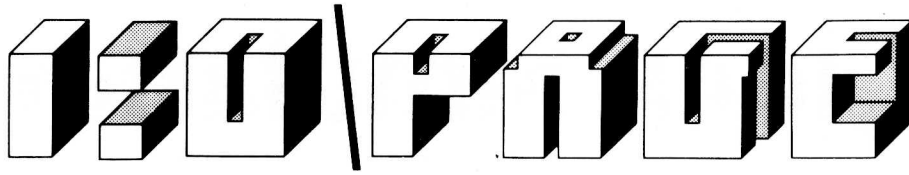
If I should draw your attention to a potential market consisting

of doctors, scientists, students and other serious users, you should then be aware that they will demand different things than the present buyers. If you want to reach them, you will have to take into consideration that these people are used to studying. After an initial course they will need more heavy books (with smaller letters) going into the depths of problems and handbooks, where you can read selected chapters, when solving an actual problem.

Doctors need statistical tests first of all. For instance a multivariate analysis, which I have seen advertised for Sinclair! Give them a statistical pack, this should be no problem. Many doctors though being skilled surgeons have difficulty with statistics when analysing results. But even a program leading them to choose the right test is a possibility, using questions like: big or small material? Comparison of two means? Comparison of a mean with known standard? etc.

Many medical researchers already have programmable calculators like the Texas TI-59 performing statistics. What you

Regulars



can offer is more text on the screen when guiding them to the right calculations and a graphical representation of the results too.

At present home-computers are not used by doctors/scientists to any significant degree. I think a good deal of the reason is that they do not know about the capabilities of home-computers. They have, however, bought the Texas TI-59 and HP analogues . . . this with their own money, because they are too interested

in the results of their research, so that a little calculating at home is unavoidable. They will buy the Oric-1 too, if they get to know of its capabilities. Doctors do not want to be ignorant, so you can even scare them with questions like: Hospitals are invaded by computers. Do you know enough about how they work?

Should you choose to write the necessary books to make the Oric suitable for medical researchers or even the general

practitioner, be aware of the tax-systems in many countries. In Scandinavia (e.g. my case 85% tax of the last penny) it may be all important to sell the Oric along with tapes and books as a package with a title like "A course in computing for the medical and biological sciences". This could make the whole thing tax deductible, whereas a home-computer would be hard to justify.

Dr. Tom Buur(actually Danish),
Snickaregatan 4 C,
582 26 Linköping, Sweden

Dear Sir,

In issue 1 of 'Oric Owner' magazine you had a program listing of 'ORIC-TREK'. In the list of instructions you mentioned that you would need a 48K Oric to run the program.

Whether or not you already realise, it is possible to run the program on a 16K ORIC, using the 'GRAB' command and with some changes in the listing you can obtain better graphics with about 4000 bytes left over.

I find it very annoying that most of the adverts for the Oric Software do not specify which model of ORIC it can be run on. I am sure that other ORIC users have the same problem.

Perhaps in future issues if a 48K program listing is printed it is possible for tips to be added for the conversion to the 16K model in appropriate cases. *D. T. Paton*

Dear Ed.,

Does anyone out there know how to scroll the Orics screen left or right? I know how to use strings for this purpose but it is a very slow and tedious method. Can anyone help?

I would also like to know if anyone knows anything about the commands INVERSE and NORMAL lurking inside the ROM.

Also could you explain the phrase DOWNLOADING as it is a bit of a mystery to me. Thank you for a great magazine. Keep it up.

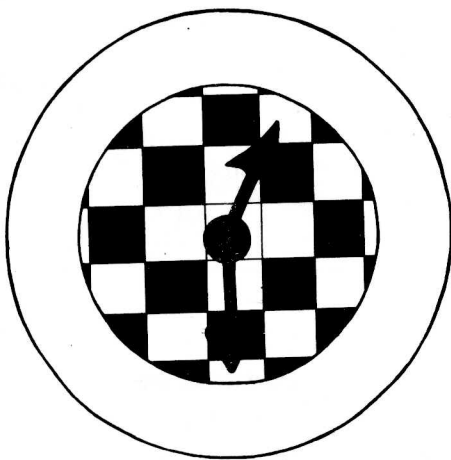
Finally, a query about the Oric Trek program in the first issue.

Whenever I try to move up or north or into a quadrant above me the program refuses to go there.

David Peat

Clock Simulation

By C. Kingham



This is a Hires program demonstrating an analogue clock display.

It allows the user to set a time and ORIC will then display the correct time in Hr, Min and Secs.

(Only varies about a second in two hours.)

To improve the accuracy of the clock. Minor adjustments can be made to the step interval at line 580 according to whether the clock is gaining or losing time.

```

10 REM *****
20 REM *   CLOCK - CHRIS KINGHAM   *
30 REM *****
40 PAPER 6
50 HIRES
60 PAPER 6:INK 0
70 H=0:M=0:F=0
80 PRINT CHR$(17)
90 REM ***** SET UP SCREEN *****
100 CURSET 123,103,3
110 CIRCLE 58,1
120 CIRCLE 75,1
130 CURSET 28,18,1:DRAW 183,0,1
140 DRAW 0,165,1:DRAW -183,0,1
150 DRAW 0,-165,1:GOSUB 1100
160 CURSET 176,68,3
170 A$="23456789"
180 FOR T=1 TO LEN(A$)
190 CHAR ASC(MID$(A$,T,1)),0,1
200 CURSET 66*COS(F)+120,66*SIN(F)+100,3
210 F=F+.52359:NEXT
220 C$="012 "
230 B$="1111"
240 FOR B=1 TO LEN(B$)
250 CHAR ASC(MID$(B$,B,1)),0,1
260 CURMOV 5,0,3
270 CHAR ASC(MID$(C$,B,1)),0,1
280 CURSET 66*COS(F)+117,66*SIN(F)+101,3
290 F=F+.52359:NEXT
300 CLS
310 PRINT SPC(7)"SET TIME (Hr,Min) "
320 INPUT H,M
330 IF M>60 OR M<0 OR H>12 OR H<0 THEN 340 ELSE 360
340 CLS:PRINT SPC(13)"INVALID TIME"
350 GOTO 300
360 CLS:F=-1.58:GOSUB 1000
370 CURSET 123,103,1
380 DRAW 52*COS(F),52*SIN(F),1
390 CURSET 123,103,1
400 DRAW 35*COS(X),35*SIN(X),1
410 CURSET 123,103,1
420 DRAW 56*COS(Y),56*SIN(Y),1
430 REM *****
440 REM *   PRESS ANY KEY TO START CLOCK   *
450 REM *****
460 GET Z$
470 F=-1.58
480 REPEAT
490 CURSET 123,103,1
500 DRAW 52*COS(F),52*SIN(F),1
510 FOR T=1 TO 145:NEXT
520 CURSET 123,103,1
530 DRAW 52*COS(F),52*SIN(F),0
540 CURSET 123,103,1
550 DRAW 35*COS(X),35*SIN(X),1
560 CURSET 123,103,1
570 DRAW 56*COS(Y),56*SIN(Y),1
580 F=F+.104719755
590 UNTIL F>1.49*PI
600 IF H>12 THEN H=1
610 CURSET 123,103,1
620 DRAW 35*COS(X),35*SIN(X),0
630 CURSET 123,103,1
640 DRAW 56*COS(Y),56*SIN(Y),0
650 M=M+1
660 IF M=60 THEN M=0:H=H+1
670 X=.10419755*(H*5):X=X-1.55
680 Y=.10419755*M:Y=Y-1.55
690 X=X+(Y/12)+.09
700 GOTO 470
1000 X=.10419755*(H*5):X=X-1.55
1010 Y=.10419755*M:Y=Y-1.55
1020 X=X+(Y/12)+.09
1030 RETURN
1100 CURSET 24,14,3:DRAW 191,0,1
1110 DRAW 0,173,1:DRAW -191,0,1
1120 DRAW 0,-173,1
1130 CURSET 24,14,3:DRAW 4,4,1
1140 CURSET 215,14,3:DRAW -4,4,1
1150 CURSET 215,186,3:DRAW -4,-4,1
1160 CURSET 24,186,3:DRAW 4,-4,1
1170 RETURN

```

No of records = 82

Oric Quickies

Sine-patterns

By Carsten Skjerk

Sine-patterns should run on the 16K Oric without any changes. Line 30 sets the seed of the random number generator by looking at the interval timer, so it should be fairly random.

```
10 REM SINE-PATTERNS BY CARSTEN SKJERK
20 INK7:PAPER0
30 X=RND(-DEEK(630))
40 DEFFNA(X)=INT(RND(1)*X)
50 B=FNA(45)+1
60 HIRES
70 P=FNA(8):I=FNA(8)
80 IFI=PTHEN70
90 INKI:PAPERP
100 POKE618,10
110 Y=FNA(10)+11
120 FORX=-PITOPISTEP.2
130 CURSETX*Y+120,SIN(X)*20+99,3
140 CIRCLEB,1
150 NEXTX
160 WAIT500
170 GOT050
```

Interference

By J Reberg



```
10 HIRES
20 FORI=0TO239STEP2
30 CURSET0,199,3
40 DRAWI,-199,2
50 NEXTI
```

Figures

By J Reberg

```
10 HIRES
20 A=1.2
30 K=0.1
40 X1=120
50 X2=100
60 INK0
70 PAPER7
100 FORI=KTO1000STEPK
110 X=SIN(I)*100+120
120 Y=SIN(I*A)*90+100
130 CURSETX,Y,1
140 IFABS(X-X1)+ABS(Y-Y1)<1THEN160
150 DRAWX1-X+0 5,Y1-Y+0 5,1
160 X1=X
170 Y1=Y
180 NEXTI
```

Oric's Sound Capabilities

By **S. Haigh**

```
10 READ A,B,C: IF C=-1 THEN END
20 MUSIC 1,A,B,0: PLAY 1,0,1,1110*C
30 WAIT 14*C: GOTO 10
50 DATA 3,10,2,4,1,4,4,3,2,4,5,3,4,7,1,4,5,2,4,3,4,3,12,2,3,8,4,3,10,1
60 DATA 3,12,1,4,1,4,3,10,2,3,10,3,3,9,1,3,10,2,3,12,4,3,9,2,3,5,4,3,10,2
70 DATA 4,1,4,4,3,2,4,5,3,4,7,1,4,5,2,4,3,4,3,12,2,3,8,4,3,10,1,3,12,1
80 DATA 4,1,3,3,12,1,3,10,2,3,9,2,3,7,2,3,9,2,3,10,4,3,10,2,3,10,6,0,0,-1
```

The program above is an example of the Oric's sound capabilities which will play an easily recognised tune. All music can be converted as below with only a minimum knowledge of reading sheet music.

Torpedo Attack

By
Martyn J. Hall

This program uses LORES graphics and has user defined characters. The program gives the user the choice of seeing the instructions, and then gives the user the choice of two levels. The difference between the two is that on level one the speed of the torpedo is faster than the speed of the torpedo on level two. Once the actual game has started the user has to destroy as many ships in the time given which can be increased on every 300 points scored. There are three different types of ships each of different points. When the time runs out your score is printed up and if you have the highest score so far then you will be asked to enter your name. Then you will be asked if you want another game or not, if you do then the game starts again otherwise it will end.

```
10 PAPER6:INK0
20 POKE#26A,10
30 CLS
35 PLOT7,10,"PLEASE WAIT A MINUTE,WHILE"
40 PLOT12,11,"YOU ARE BEING ARMED"
45 GOSUB 420:CLS:PRINT:PRINT
46 PRINT:PRINT" DO YOU REQUIRE INSTRUCTIONS (Y/N)"
47 REPEAT:GET AS:UNTIL AS="Y" OR AS="N":IF AS="Y" THEN GOSUB 1470
48 PRINT:PRINT
49 PRINT"ENTER THE LEVEL PLEASE 1(EASY) 2(HARD)"
50 REPEAT:GET LEVEL$:UNTIL LEVEL$="1" OR LEVEL$="2"
55 IF LEVEL$="1" THEN LEVEL=1
60 IF LEVEL$="2" THEN LEVEL=2
65 CLS:FOR C=1 TO 4
70 ZAP:PLOT10,10,"ACTION STATIONS":WAIT50
75 PLOT10,10,"":WAIT30:NEXTC:WAIT100
80 PLOT7,15,"THE ENEMY ARE COMING":WAIT150
85 GOSUB 1200
90 GOSUB 1320
100 X=15
110 PLOTX,Y,Q$
120 REPEAT
125 IF Q<1000 THEN POKE48060,32
130 Q=Q+1:IF Q<100 THEN POKE48059,32:IF Q<10 THEN POKE48058,32
140 Q$=STR$(Q):PLOT15,0,Q$
150 SC$=STR$(Q):PLOT28,0,SC$
160 IF DI=1 AND A<5 THEN PLOT A,B,R$:GOSUB 9000
165 IF DI=2 AND A>30 THEN PLOT A,B,R$:GOSUB 9000
170 IF R=3 OR R=6 THEN Q=2 ELSE Q=1
180 PLOTA,B,R$
190 IF DI=1 THEN A=A-Q
195 IF DI=2 THEN A=A+Q
200 PLOTA,B,DS(R):WAIT2
210 K$=KEY$:IF K$="" THEN K$=L$
220 IF K$=CHR$(8) THEN PLOTX,Y,TS:X=X-2:L$=K$
230 IF K$=CHR$(9) THEN PLOTX,Y,TS:X=X+2:L$=K$
240 IF K$=CHR$(10) AND LEVEL=1 THEN CO=X:L$=K$
250 IF X<1 THEN X=1
260 IF X>38 THEN X=38
270 PLOTX,Y,Q$
280 IF K$=CHR$(11) THEN GOSUB 710
290 UNTIL Q<=0
300 WAIT100
310 POKE48057,32:POKE48056,32
320 CLS
330 PRINT:PRINT
340 PRINT" YOUR SCORE WAS ";S
350 IF S>W THEN PRINT" THE HIGHEST SO FAR"ELSE PRINT" THE BEST WAS ";W:" BY ";MS
360 IF S>W THEN W=S:INPUT"ENTER YOUR NAME PLEASE";MS
370 PRINT:PRINT
375 IF LEVEL=1 AND S>20000 THEN PRINT"YOU OUGHT TO BE ON LEVEL 2"
376 PRINT:PRINT
380 PRINT"DO YOU WANT ANOTHER GAME (Y/N)"
```

Torpedo Attack Listing

```

390 GET AS:IF AS="Y" THEN 46
400 IF AS="N" THEN 980 ELSE 380
420 REM ** CHARACTER DEFINITION **
430 T=46080
440 FOR N=0 TO 7:READX:POKE(T+264+N),X:NEXTN
450 DATA #0C,#0C,#1E,#1E,#3F,#3F,#3F,#3F
460 FOR N=0 TO 7:READX:POKE(T+984+N),X:NEXTN
470 DATA #0,#0,#1,#3F,#1F,#F,#07,#03
480 FOR N=0 TO 7:READX:POKE(T+1000+N),X:NEXTN
490 DATA #10,#20,#0,#0,#3F,#3F,#3F,#3F
500 FOR N=0 TO 7:READX:POKE(T+728+N),X:NEXTN
510 DATA #0,#0,#0,#0,#0,#3F,#3F,#3F
520 FOR N=0 TO 7:READX:POKE(T+512+N),X:NEXTN
530 DATA #0,#0,#0,#0,#1F,#0F,#07,#03
540 FOR N=0 TO 7:READX:POKE(T+976+N),X:NEXTN
550 DATA #0,#0,#0,#0,#3F,#3F,#3F,#3F
560 FOR N=0 TO 7:READX:POKE(T+944+N),X:NEXTN
570 DATA #30,#30,#30,#30,#3F,#3F,#3F,#3F
580 FOR N=0 TO 7:READX:POKE(T+920+N),X:NEXTN
590 DATA #0,#0,#0,#0,#3F,#3F,#3F,#3F
600 FOR N=0 TO 7:READX:POKE(T+848+N),X:NEXTN
610 DATA #0,#0,#0,#3F,#1F,#0F,#07,#03
620 FOR N=0 TO 7:READX:POKE(T+792+N),X:NEXTN
630 DATA #0,#0,#0,#3F,#3F,#3F,#3F,#3F
640 FOR N=0 TO 7:READX:POKE(T+968+N),X:NEXTN
650 DATA #20,#38,#38,#3F,#3F,#3F,#3F,#3F
660 FOR N=0 TO 7:READX:POKE(T+960+N),X:NEXTN
670 DATA #0,#0,#0,#3F,#3E,#3C,#38,#30
680 FOR N=0 TO 7:READX:POKE(T+768+N),X:NEXTN
690 DATA #3F,#3F,#3F,#0,#0,#0,#0,#0
691 FOR N=0 TO 7:READX:POKE(T+776+N),X:NEXTN
692 DATA 0,0,0,0,63,63,63,31
693 FOR N=0 TO 7:READX:POKE(T+800+N),X:NEXTN
694 DATA 3,3,3,3,63,63,63,63
695 FOR N=0 TO 7:READX:POKE(T+808+N),X:NEXTN
696 DATA 0,0,0,0,62,60,56,48
697 FOR N=0 TO 7:READX:POKE(T+952+N),X:NEXTN
698 DATA 1,7,7,63,63,63,63,63
699 FOR N=0 TO 7:READX:POKE(T+912+N),X:NEXTN
700 DATA 0,0,32,63,62,60,56,48
701 FOR N=0 TO 7:READX:POKE(T+936+N),X:NEXTN
702 DATA 2,1,0,0,63,63,63,63
709 RETURN
710 REM ** SHOOTING ROUTINE **
720 OS=STR$(0)
725 IF LEVEL=1 THEN SP=2.75 ELSE SP=1.5
730 FOR C=2 TO 5 STEP-.SP
740 PLOTA,B,RS
750 IF DI=1 THEN A=A-.4*Q
751 IF DI=1 AND A<5 THEN PLOTA,B,RS:GOSUB 9000
755 IF DI=2 THEN A=A+.4*Q
756 IF DI=2 AND A>30 THEN PLOTA,B,RS:GOSUB 9000
757 IF R=1 OR R=2 OR R=3 THEN DI=1 ELSE DI=2
760 IF R=3 OR R=6 THEN Q=2 ELSE Q=1
770 PLOTA,B,DS(R):WAIT2

```

2

```

780 PLOTX,C," "
790 PLOTX,C+SP,TS
800 NEXTC
820 GOSUB 3500
825 IF S=1 OR S=Y2 OR S=Y3 OR S=Y4 OR S=Y5 OR S=Y6 THEN
O=O+300:GOSUB 1440
827 IF O<1000 THEN POKE48060,32
830 O=O-9:IF O<100 THEN POKE48059,32:IF O<10 THEN POKE48058,32
840 IF O<0 THEN PLOT15,0,"0":POKE48057,32:POKE48056,32
850 PLOTX,C+SP,TS
860 PLOTX,C+SP+1,96
870 PLOT15,0,OS
880 RETURN
890 REM *****
900 SC$=STR$(S)
905 PLOT28,0,SC$
910 IF R=1 OR R=4 THEN S=S+20
920 IF R=2 OR R=5 THEN S=S+10
930 IF R=3 OR R=6 THEN S=S+50
950 PLOT28,0,SC$:PLOTX,C+SP+1,96:X=X+1:PLOTX-1,Y,TS:PLOT15,0,OS
960 GOSUB 9000
970 RETURN
980 REM ** ENDING ROUTINE **
990 CLS
1000 PLOT8,8,"*****"
1010 PLOT8,9,"**"
1020 PLOT8,10,"**"
1030 PLOT8,11,"**"
1040 PLOT8,12,"**"
1050 PLOT8,13,"*****"
1060 FOR C=1 TO 10
1070 PLOT11,10,"THIS PROGRAM HAS"
1080 PLOT15,11,"NOW ENDED"
1090 PLAY2,0,2,200:MUSIC2,3,2,15:WAIT50
1100 PLOT11,10," "
1110 PLOT15,11," "
1120 PLAY0,0,0,0:WAIT40
1140 NEXT C
1170 WAIT100
1180 CLS:INK6:PRINT CHR$(19)
1190 END
1200 REM ** INITIALIZATION **
1210 B=5:Y=25:L=124:S=0:O=400
1215 R=INT(6*RNDR(1))+1
1216 IF R=1 OR R=2 OR R=3 THEN A=30 ELSE A=5
1217 IF R=1 OR R=2 OR R=3 THEN DI=1 ELSE DI=2
1230 TS=" "
1240 RS=" "
1250 Y1=300:Y2=310:Y3=320:Y4=330:Y5=340:Y6=350
1270 DS(1)=CHR$(64)+CHR$(122)+CHR$(118)+CHR$(118)+CHR$(115)
1280 DS(2)=CHR$(106)+CHR$(99)+CHR$(121)+CHR$(99)+CHR$(120)
1290 DS(3)=CHR$(123)+CHR$(125)+CHR$(91)
1291 DS(4)=CHR$(97)+CHR$(100)+CHR$(100)+CHR$(122)+CHR$(101)
1292 DS(5)=CHR$(106)+CHR$(99)+CHR$(119)+CHR$(99)+CHR$(120)

```

3

```

1293 DS(6)=CHR$(91)+CHR$(117)+CHR$(114)
1300 QS=CHR$(33)
1310 RETURN
1320 REM ** START OF PROGRAM **
1330 FOR F=0 TO 38:PLOTX,6,96:NEXTF
1340 POKE49086,94:POKE49113,94
1350 POKE49085,0:POKE49112,0
1355 POKE48040,0
1360 PLOT0,26,17
1370 PLOTA,B,DS(R)
1390 POKE48041,2
1400 PLOT4,0,"TIME LEFT="
1410 POKE48061,1
1420 PLOT21,0,"SCORE="
1425 POKE48043,1
1430 RETURN
1450 Y1=Y1+300:Y2=Y2+300:Y3=Y3+300:Y4=Y4+300:Y5=Y5+300:Y6=Y6+300
1460 RETURN
1470 REM ** INSTRUCTIONS **
1480 CLS
1490 PRINT:PRINT
1500 PRINT CHR$(4)
1510 PRINT CHR$(27);"Q "+CHR$(27);"N TORPEDO ATTACK"
1520 PRINT CHR$(4)
1530 PRINT:PRINT
1540 PRINT" THIS PROGRAM IS DESIGNED BY"
1550 PRINT" MARTYN J.HALL"
1570 PRINT
1580 PRINT"TO OPERATE THIS GAME USE THE LEFT AND"
1590 PRINT"RIGHT CURSORS TO MOVE LEFT AND RIGHT,"
1600 PRINT"THE UP CURSOR TO FIRE,AND IF IT IS"
1610 PRINT"ON LEVEL 1 THEN THE DOWN CURSOR"
1620 PRINT"WILL STOP YOUR DEFENDER,NOTE THAT"
1630 PRINT"THE ARROWS AT THE BOTTOM MARK THE"
1640 PRINT"FIRING RANGE,WHERE YOU CAN HIT THE"
1650 PRINT"BOATS.EACH BOAT IS WORTH A CERTAIN"
1660 PRINT"AMOUNT OF POINTS,AS LISTED BELOW"
1670 PRINT
1680 PRINT" AIRCRAFT CARRIER =10 POINTS"
1690 PRINT" DESTROYER =20 POINTS"
1700 PRINT" SPEED BOAT =50 POINTS"
1710 PRINT
1720 PRINT CHR$(27);"Q "+CHR$(27);"L PRESS SPACE BAR TO"
CONTINUE"
1730 GET AS:IF AS=CHR$(32) THEN 1735 ELSE 1730
1735 CLS
1740 PRINT:PRINT
1750 PRINT" YOUR JOB IS TO PREVENT"
1760 PRINT" THE ENEMY (BOATS) FROM"
1770 PRINT" REACHING YOUR BASE IN"
1780 PRINT" THE TIME GIVEN.EVERY"
1790 PRINT" 300 POINTS WILL GIVE"
1800 PRINT" YOU AN EXTRA 300 ONTO"
1810 PRINT" YOUR TIME.EVERY TIME"
1820 PRINT" YOU FIRE 10 BITS OF TIME"

```

4

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1830 PRINT" ARE TAKEN OFF YOUR TIME"
1840 PRINT" SO THE BEST WAY TO PLAY"
1850 PRINT" IS TO SHOOT AS LITTLE AS"
1860 PRINT" POSSIBLE,ALSO EVERY TIME"
1870 PRINT" YOU HIT A BOAT,YOUR DEFENDER"
1880 PRINT" IS MOVED TO THE RIGHT"
1890 PRINT" BY ONE PLACE,AND ALSO"
1900 PRINT" YOUR DEFENDER MOVES IN"
1910 PRINT" THE DIRECTION WHICH IT"
1920 PRINT" WAS GOING IN BEFORE UNLESS"
1930 PRINT" THE DIRECTION IS CHANGED"
1940 PRINT" OR YOU FIRE,OR ON LEVEL ONE"
1950 PRINT" YOU STOP THE DEFENDER."
1960 PRINT
1970 PRINT CHR$(27);"Q "+CHR$(27);"L PRESS SPACE BAR TO"
CONTINUE"
1980 GET AS:IF AS=CHR$(32) THEN 1990 ELSE 1980
1990 CLS
2000 PRINT:PRINT
2010 RETURN
3500 IF X AND SCRN(A,5)=L THEN EXPLODE:WAIT10:PLOTA,B,RS:GOSUB
890:RETURN
3510 IF X AND SCRN(A+1,5)=L THEN EXPLODE:WAIT10:PLOTA,B,RS:GOSUB
890:RETURN
3520 IF X AND SCRN(A+2,5)=L THEN EXPLODE:WAIT10:PLOTA,B,RS:GOSUB
890:RETURN
3530 IF R=3 OR R=6 THEN RETURN
3540 IF X AND SCRN(A+3,5)=L THEN EXPLODE:WAIT10:PLOTA,B,RS:GOSUB
890:RETURN
3550 IF X AND SCRN(A+4,5)=L THEN EXPLODE:WAIT10:PLOTA,B,RS:GOSUB
890:RETURN
3560 RETURN
9000 REM ** STARTING POINTS **
9010 R=INT(6*RNDR(1))+1
9020 IF R=1 OR R=2 OR R=3 THEN DI=1 ELSE DI=2
9030 IF DI=1 THEN A=30 ELSE A=5
9040 IF DI=1 THEN A=A-Q
9050 IF DI=2 THEN A=A+Q
9060 RETURN

```

5

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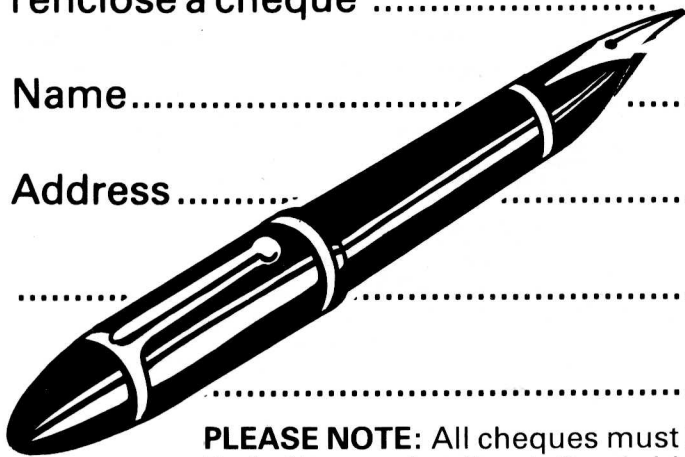
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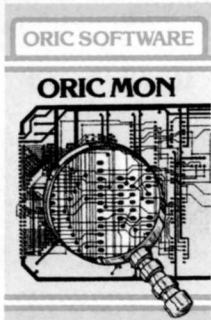
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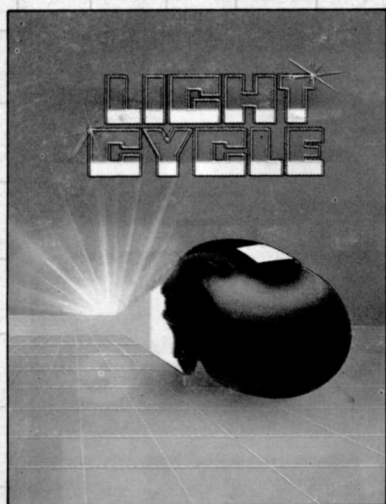
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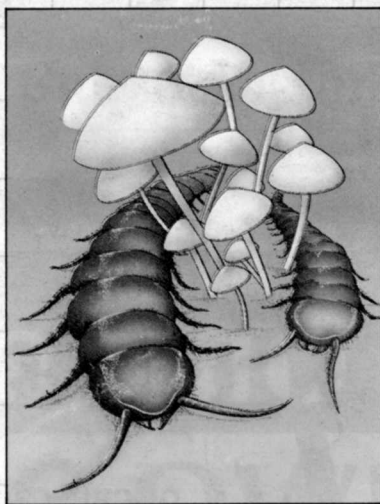
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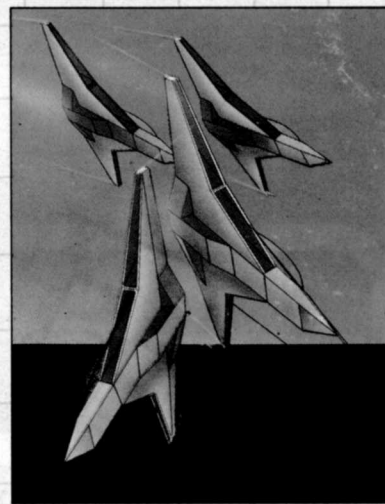
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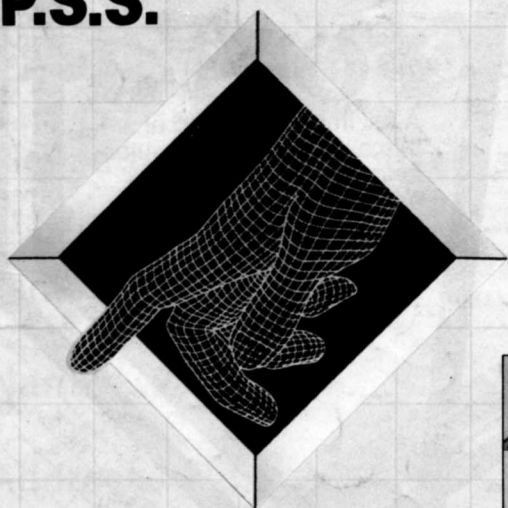
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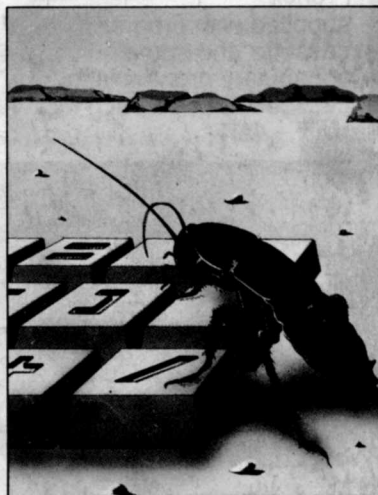
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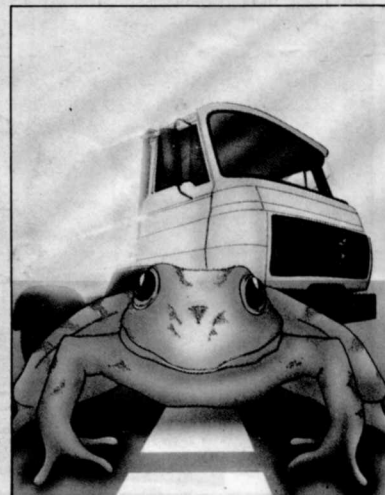
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